CURTIS'S
BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew

AND

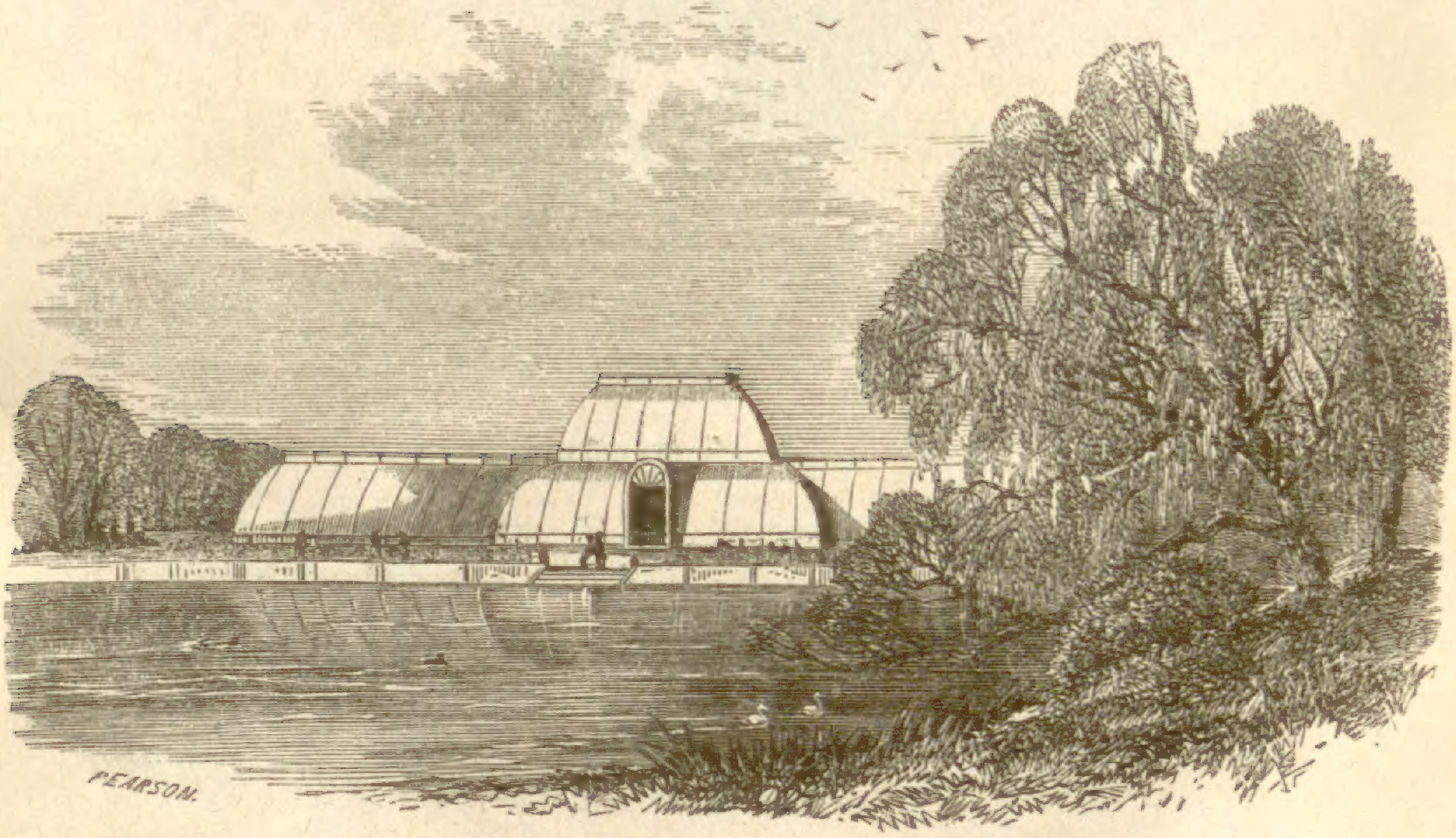
OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;
WITH SUITABLE DESCRIPTIONS;

BY

JOSEPH DALTON HOOKER, M.D., F.R.S. L.S. & G.S.,

D.C.L. OXON., LL.D. CANTAB., CORRESPONDENT OF THE INSTITUTE OF FRANÇE.

VOL. XXII.
OF THE THIRD SERIES;
(Or Vol. XCII. of the Whole Work.)



> "In order, eastern flowers large,
> Some drooping low their crimson bells
> Half closed, and others studded wide
> With disks and tiars, fed the time
> With odour."
>
> *Tennyson.*

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BY

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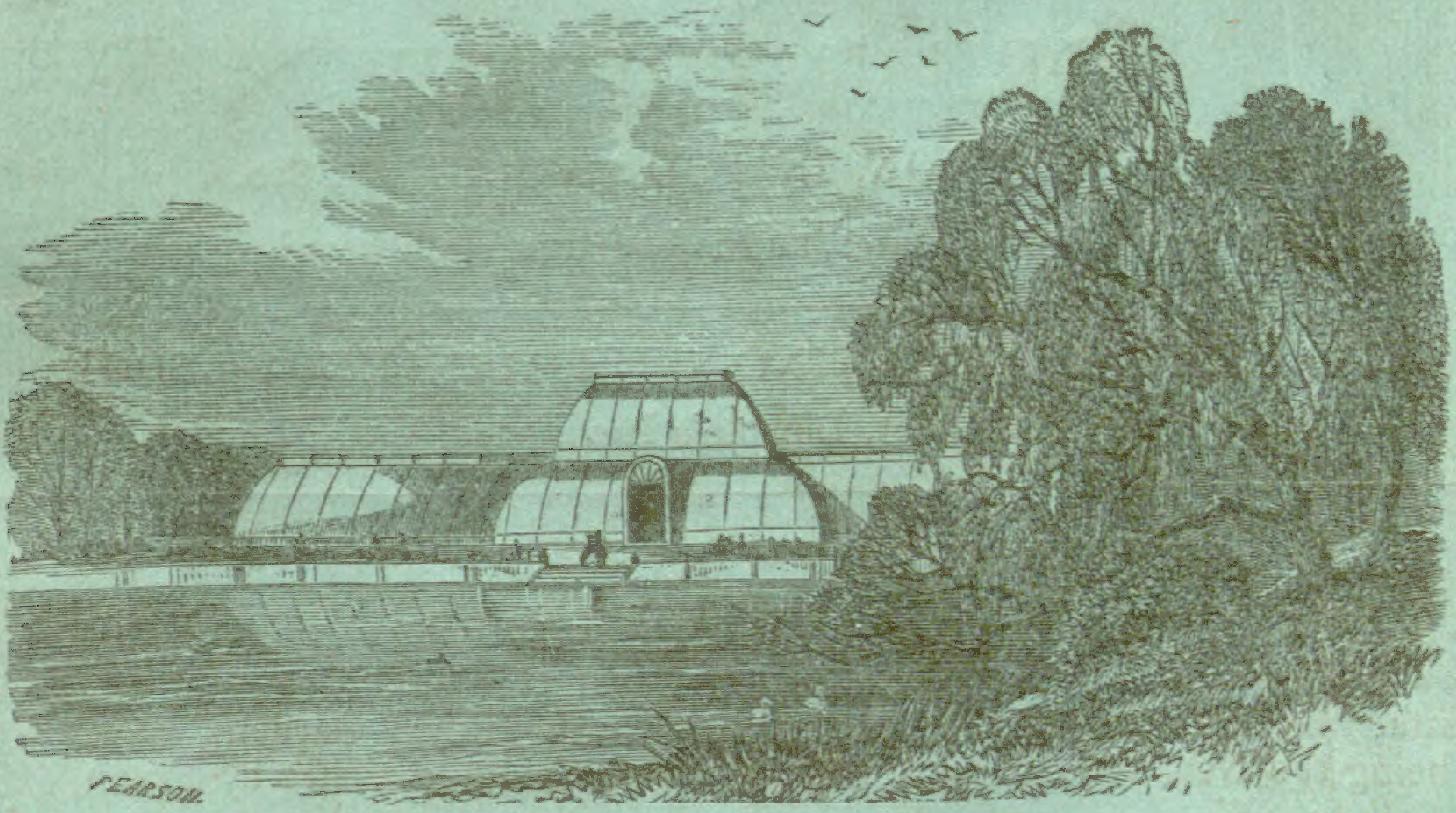

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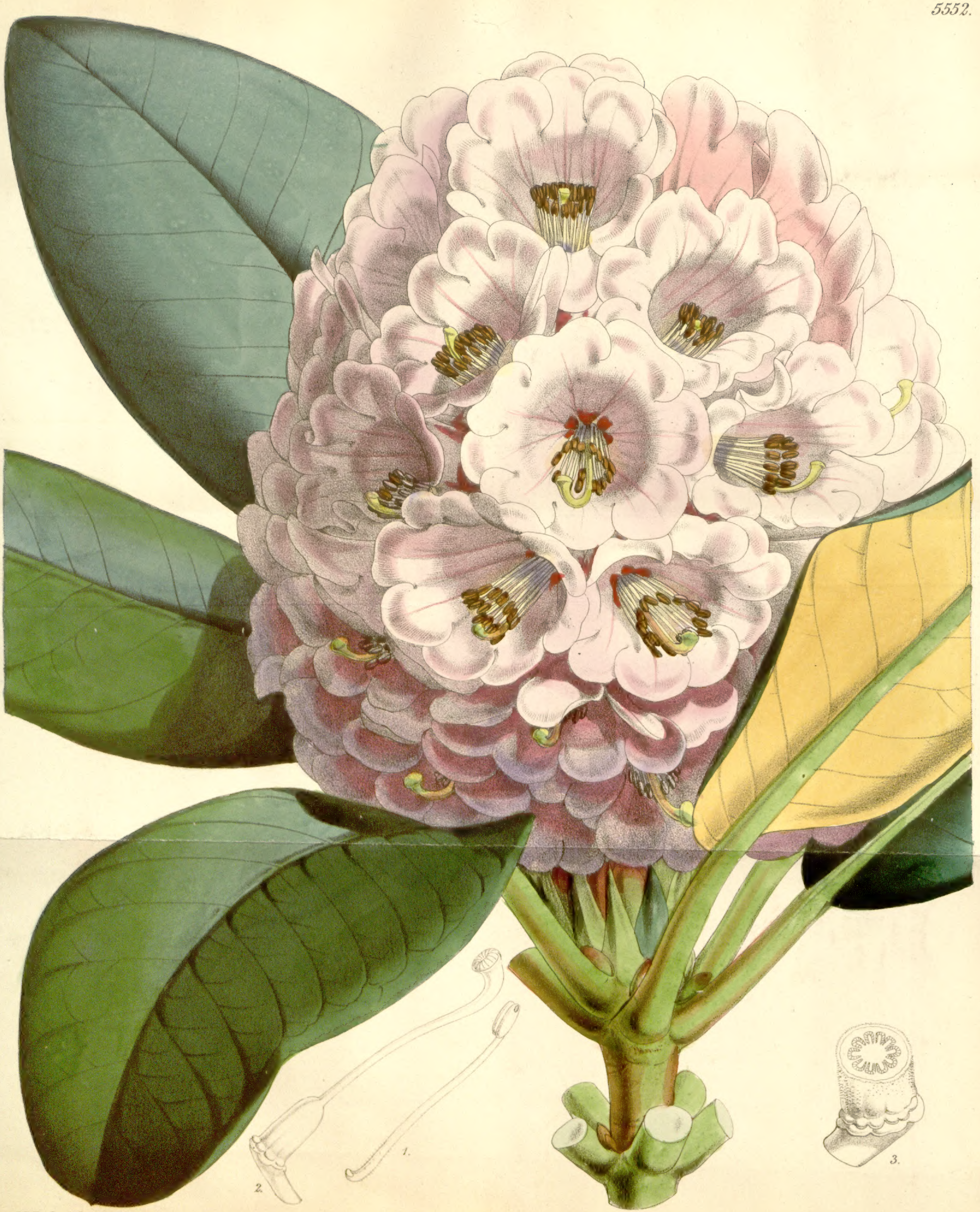

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5552.

RHODODENDRON HODGSONI.

Mr. Hodgson's Rhododendron.

Nat. Ord. ERICEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4336.)

RHODODENDRON *Hodgsoni*; frutex robustus, ramis cortice papyraceo tectis, ramulis crassis tomentosis, foliis amplis obovato-oblongis oblongisve obtusis supra glabris subtus tomento argenteo v. subrufo opertis, basi rotundatis subcordatisve, petiolis crassis, capitulis magnis multifloris densis, calyce obsoleto, corolla late campanulata pallide purpurea 8–10-loba, staminibus 16–18, ovario pubescente 10–16-loculari.

RHODODENDRON Hodgsoni. *Hook. f. Sikkim Rhod. t.* 15, *et in Journ. Hort. Soc. Lond. v.* 7. *p.* 76.

RHODODENDRON sp. *Griff. Notulæ, v.* 14. *p.* 303. *Ic. t.* 521.

One of the noblest of the grand series of Rhododendrons that adorn the Eastern Himalayan mountains, discovered by Griffith in Bhotan in 1838, and gathered by myself in the alpine valleys of Eastern Nepal and Sikhim, at elevations of 10–12,000 feet. It flowered in the temperate house of Kew in April of last year. This is one of the finest of all the Rhododendrons in foliage; the trunk is remarkable for its pale brown papery bark, which flakes off in patches as broad as the hand; and the leaves often attain eighteen inches in length. Of the wood the mountaineers make spoons, cups, saddles, etc., and the leaves are used as platters for butter, curds, etc.

DESCR. A large shrub or almost a tree, ten to twenty feet high; main branches horizontal, almost as thick as the thigh; bark smooth, papery, flaking off; wood white, close-grained. *Leaves* ample, spreading, eight to eighteen inches long, oblong or oblong-obovate, obtuse or subacute, very coriaceous, glabrous and glossy above, beneath clothed with

JANUARY 1ST, 1865.

silvery or ferruginous tomentum. *Heads* four to eight inches in diameter, of very numerous, crowded, pale purple flowers; *peduncles* short, viscid, and often downy. *Calyx* obscurely lobed or obsolete. *Corolla* broadly campanulate, one and a half to two and a half inches broad. *Stamens* sixteen to eighteen. *Ovary* pubescent; ten- to sixteen-celled; *style* stout; *stigma* rather large. *Capsule* narrow-linear, cylindric, curved.

Fig. 1. Stamen. 2. Ovary, style, and stigma:—*natural size*. 3. Transverse section of ovary:—*magnified*.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5553.

LÆLIA GRANDIS.

Large-flowered Lælia.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4302.)

LÆLIA *grandis;* caule clavato monophyllo, folio coriaceo, pedunculo bifloro basi spathaceo longiore, floribus subhorizontalibus, sepalis lanceolatis reflexis, petalis late lanceolatis crispis convexis, labello membranaceo venoso nudo undulato trilobo, laciniis lateralibus circa columnam convolutis et multo longioribus. *Lindl.*

LÆLIA grandis. *Lindl. et Paxt. Fl. Gard. v.* 1. *n.* 91, *cum xylog.*

This fine *Lælia* first made its appearance in the establishment of M. Morel, of Paris, where it flowered in the spring of 1850. In the year following it was exhibited at one of the great London shows, but from that time it would seem to have entirely disappeared from our collections, until its reintroduction last year (1864) by Messrs. Hugh Low and Co., of the Clapton Nursery, who received a few plants of it from their collector at Bahia. From the same locality and about the same time, specimens were sent by Mr. Williams to the Royal Gardens at Kew, where one of them flowered finely in the summer of 1865, when it was drawn by Mr. Fitch for this work, in which the first coloured representation of the plant is now presented. Some slight discrepancies may be observed between Mr. Fitch's drawing and the woodcut in Paxton's Magazine, but these are readily accounted for by the circumstance that the former was made from fresh flowers, while the latter was taken from specimens that had probably suffered in their transmission to this country.

In its habit and the general aspect of its flowers *L. grandis* is undistinguishable from the *Cattleyas*, to which—but for its eight pollen-masses—it would at once be referred. And even the latter structural distinction cannot be implicitly relied upon, for I have examined specimens of so-called Lælias in which all but two pair of pollen-masses were merely rudimentary. The circumstance of species of the two supposed genera breeding freely together—as has been proved by Mr. Dominy's experiments—is another fact pointing in the same direction, and goes far to justify Professor Reichenbach's opinion that they ought not any longer to be kept apart, except for the convenience of cultivators. *Lælia grandis* should be grown with the *Cattleyas*. It is easily managed, and flowers during the summer months.

DESCR. An epiphyte with stems under a foot high, narrow at the base, but swollen above, and bearing a solitary rigid *leaf*, which is rather broader at the base than at the point. *Peduncle* proceeding from an ample spathe, two-flowered. *Sepals* nankeen-coloured, lanceolate, about two inches long; *petals* rather wider in the middle than the sepals, and of the same colour, a little curled and in some cases toothed at the edges. *Lip* three-lobed, whitish with purple veins. *Column* entirely concealed by the side lobes of the lip, which are folded round it.

Fig. 1. Column. 2. Pollen-masses:—*magnified*.

W. Fitch, del et lith.

Vincent Brooks Imp

Tab. 5554.

BEGONIA BACCATA.

Berried-fruited Begonia.

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4172.)

Begonia *baccata*: herbacea, elata, monoica, robusta, caule petiolis pedunculisque breviter tomentosis, foliis late cordato-rotundatis abrupte acuminatis remote inæqualiter sinuato-dentatis subtus et utrinque secus nervos pubescentibus, stipulis amplis late oblongis obtusis deciduis, cymis brevibus axillaribus 6-8-floris, floribus magnis albis, sepalis utroque sexu 2 oblongo-rotundatis, antheris linearibus subemarginatis filamento gracili longioribus, ovario subgloboso obscure 5-6-sulcato 5-6-loculari, septis ramosis placentiferis, stylis 5-6 bicornutis cornubus tortis, fructu (ex Mannio) baccato indehiscente subgloboso, carnoso.

One of the most remarkable of the discoveries of our indefatigable collector, Gustav Mann, in the Bight of Benin, was a fine and robust Begonia, with a baccate fruit; of this, the subject of our present Plate, he sent living specimens to the Royal Garden in 1861, from the island of St. Thomas, which flowered in May of last year. The same collector also gathered it in Fernando Po, growing on an epiphyte at an altitude of 1300 feet. Like the very different, but scarcely less remarkable *B. prismatocarpa* (Tab. 5307), and the even more remarkable fern-leaved *B. aspleniifolia*, Hook. f. (A. DC. Prod. xv. 320), both also discovered by Mr. Mann, the *B. Mannii* stands alone as a section of the genus, differing from all described in A. De Candolle's elaborate monograph of the genus, in the baccate fruit and five- or six-celled ovary, in which the septa are deeply lobed, or almost branched and covered with ovules; for the details of this I am indebted to Mr. Fitch's careful drawing, not having had the opportunity of examining the plant when in flower.

Descr. *Stems* tall, robust, as thick as the thumb, covered with ferruginous tomentum, as are the petioles, peduncles and pedicels. *Leaves* six to ten inches long, very broadly orbicular-cordate, suddenly tapering to a long point, remotely toothed, glabrous except the nerves above, downy beneath. *Stipules* very large, broadly oblong, obtuse, deciduous. *Flowers* monœcious, in short axillary cymes, two and a half inches across, white in our specimen, white and pink in dried ones from Fernando Po. *Sepals* in both sexes two, broadly oblong, obtuse, concave. *Stamens* in one short compressed bundle, apparently seated on a flat receptacle; *anthers* narrow linear, obtuse, emarginate. *Ovary* nearly spherical, but somewhat urceolate, downy, obscurely five- or six-lobed, five- or six-celled, with deeply lobed dissepiments. *Styles* five or six, rather slender, with two horns, which are divaricating at the base, and twisted at their apices. *Fruit* described by Mr. Mann as a large, nearly spherical, fleshy, indehiscent berry.

Fig. 1. Stamen :—*magnified.* 2. Ovary and styles. 3. Transverse section of ovary. 4. Miniature fruit :—*nat. size.*

5555.

W. Fitch, del. et lith.

Vincent Brooks Imp.

TAB. 5555.

SPARAXIS PULCHERRIMA.

Most beautiful Sparaxis.

Nat. Ord. IRIDEÆ.—TRIANDRIA MONOGYNIA.

Gen. Char. Perigonium corollinum superum, infundibuliforme, tubo brevi gracili, limbi ampli 6-partiti laciniis subæqualibus stellatim patentibus rarius campanulatim conniventibus. *Stamina* 3, tubo perigonii inserta, adscendentia, inclusa, filamentis subulatis. *Ovarium* obtuse 3-gonum, 3-loculare; ovula plurima, in loculorum angulo centrali 2-seriata; stylus filiformis, stigmatibus 3 linearibus recurvis. *Capsula* membranacea, obsolete 3-gona, subtorulosa, 3-locularis, loculicide 3-valvis. *Semina* plurima, subglobosa.—Herbæ Capenses, *rhizomate tuberoso-reticulato tunicato.* Folia *ensata, nervosa.* Scapus *simplex* v. *racemosus.* Flores *spicati, intra spatham 2-valvem membranaceam inclusi. Endl.*

SPARAXIS *pulcherrima;* scapo gracillimo elato racemoso, foliis anguste ensiformibus sensim attenuato-acuminatis, ramis capillaribus elongatis devis apice floriferis, bracteis elongato-subulatis subintegerrimis, bracteolis spathaceis longe acuminatis, floribus magnis purpureis, perianthio æquali campanulato.

For the introduction of this most lovely Cape bulb, we are indebted to the well-known unrivalled cultivators of hardy and half-hardy plants, Messrs. Backhouse, of York, who flowered it in October of the present year. The specimens were procured from the district between the Keiskamma and Buffalo rivers, on the eastern side of South Africa, and grew in a rich black soil. The plant is alluded to in the elder Backhouse's Missionary Narrative, p. 199. I have native specimens from the Albany district, Uitenhage, Assagaybosch, and Transvaal, all named *S. pendula*, which in habit it a good deal resembles; but the whole plant is much larger, the perianth campanulate, and the bracts very different in shape. A more lovely and graceful plant, from its extremely tall and slender stems and tiers of drooping flowers, cannot well be imagined.

DESCR. *Leaves* narrow ensiform, rather thick, about one-third of an inch broad, gradually narrowed from below the middle to a very slender apex, rigid, erect. *Scape* exceedingly tall and slender, attaining six feet in its native habitat, racemosely branched above and drooping; *branches* remote, capillary, three to six inches long, curved from the weight of the pendulous flowers, which are clustered at their extremities. *Bracts* at the base of the branches one and a half inch long, very slender, subulate, entire; *bractlets* at the base of the flowers oblong-lanceolate, acuminate, somewhat laciniate, but less so than is usual in the genus. *Flowers* pendulous. *Perianth* equal, one and a half inch long, dark blood-purple, campanulate. *Ovary* turbinate.

Fig. 1. Reduced figure of whole plant. 2. Apex of scape:—*nat. size.* 3. Base. 4. Apex of leaf:—*nat. size.* 5. Ovary and stamens. 6. Ovary and style:—*both magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5556.

EPIDENDRUM MYRIANTHUM.

Many-flowered Epidendrum.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4107.)

EPIDENDRUM (Amphiglottium, *Lindl.*) *myrianthum;* foliis lineari-lanceolatis acutis vaginis nigro-punctatis, paniculæ compositæ effusæ ramis divaricatis, bracteis setaceis, pedicellis ovariisque longissimis, sepalis membranaceis oblongis obtusis, petalis lineari-spathulatis, labello longiore 4-partito bicalloso laciniis truncatis linearibus æquilongis recurvis lateralibus subintegris, intermediis apice tantum laceris, clinandrio utrinque obtuso appendice dorsali membranaceâ cucullatâ bifidâ. *Lindl.*

EPIDENDRUM myrianthum. *Lindl. Fol. Orch.*

This most charming Epidendrum was discovered many years ago by Mr. Skinner at a very high elevation on the mountains of Guatemala, and a few of the specimens that he transmitted to this country have lingered in our collections, but—owing no doubt to their having been kept too warm—could never be induced to flower. As one of these happened to be still alive at Knypersley, though its shoots were no thicker than a crowquill, I directed it to be put in a cool house, in which some of the old and feeble stems speedily blossomed, and new shoots, thrice the strength of the others, almost immediately presented themselves. When these are sufficiently advanced, I have no doubt that masses of flowers will be produced, equal to the dried specimens preserved in the Lindleyan Herbarium (now at Kew), and which have assisted Mr. Fitch in preparing the representation on the opposite page.

The plant flowered in June last in one of the cool houses at Knypersley, and continued long in beauty. Some idea of its habit may be gathered from the reduced sketch in the Plate. The stems are about a yard high.—*J. B.*

JANUARY 1ST, 1866.

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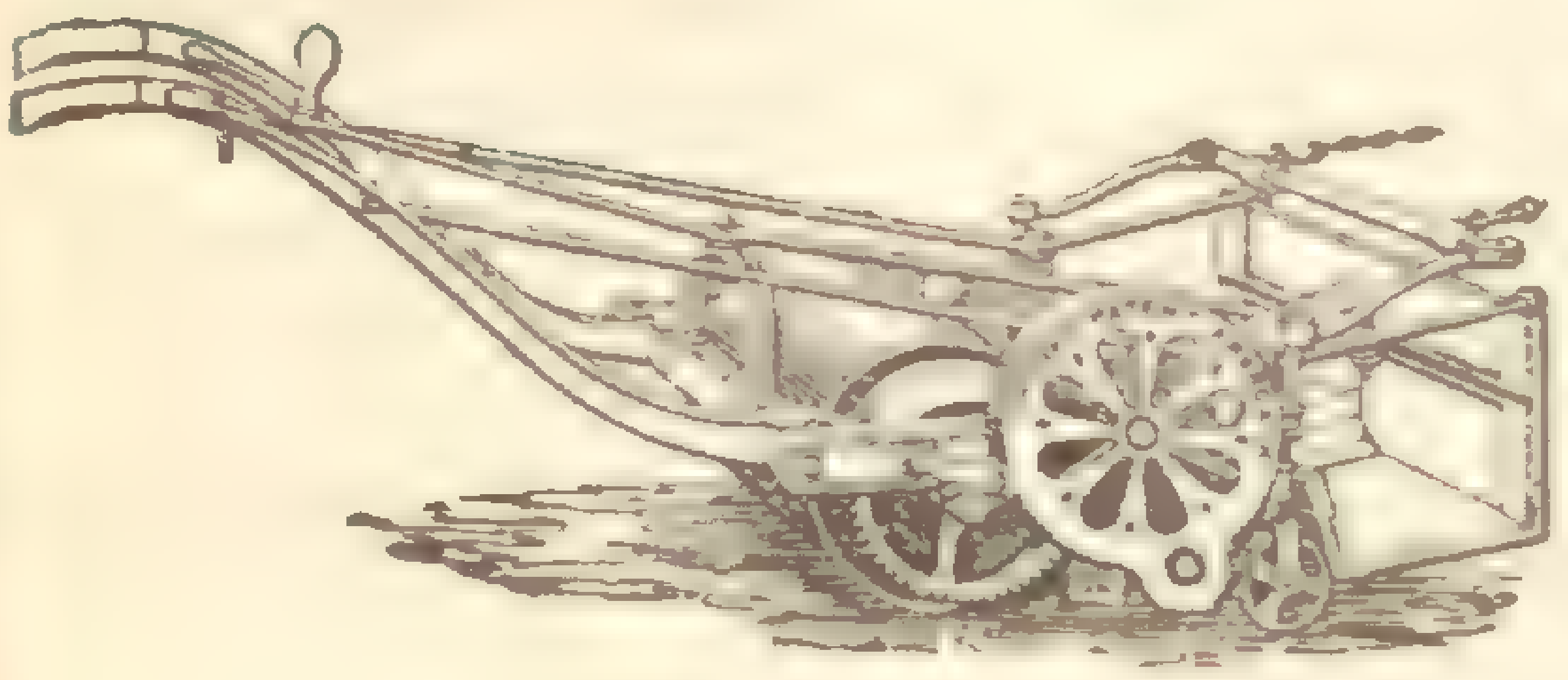

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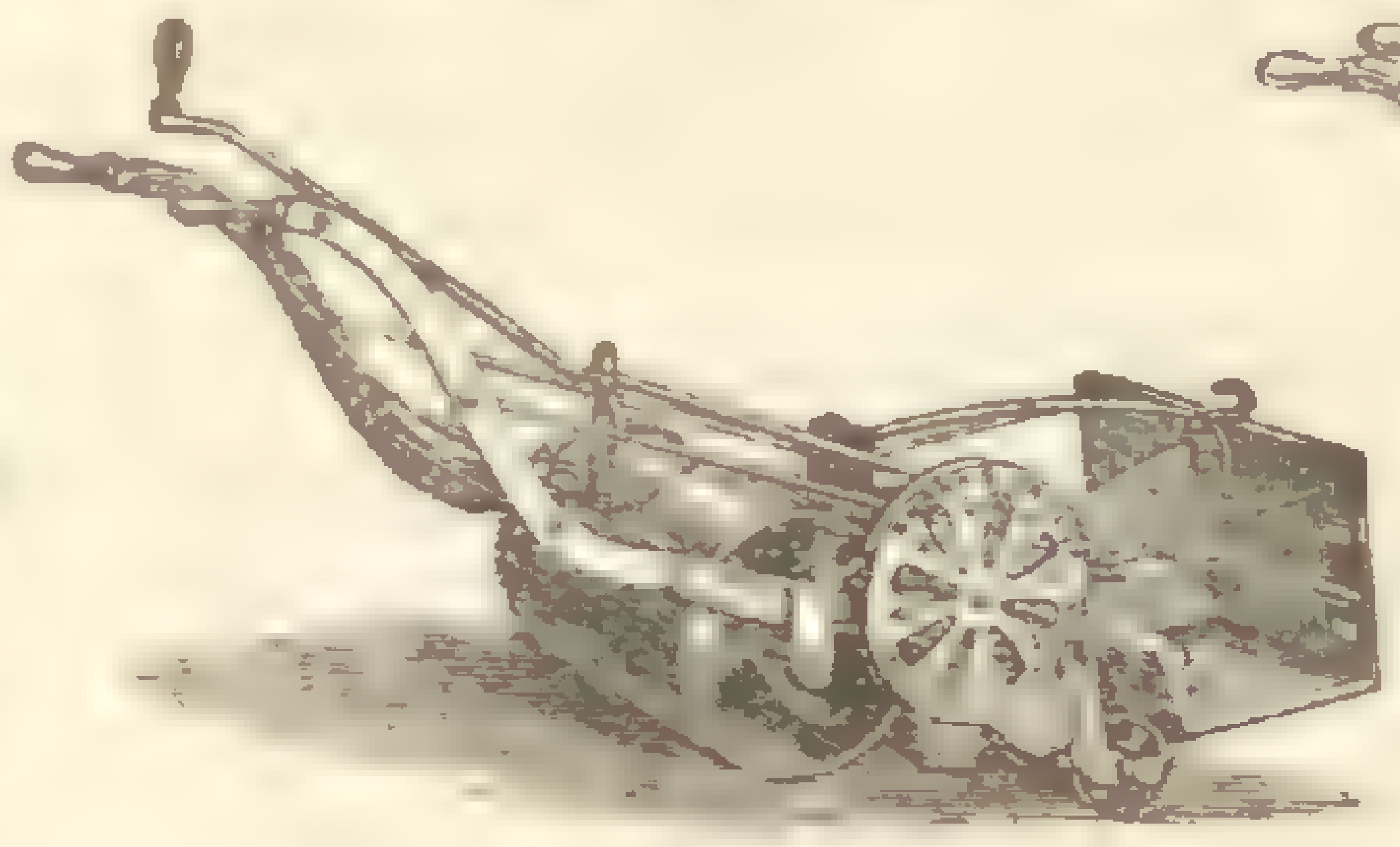

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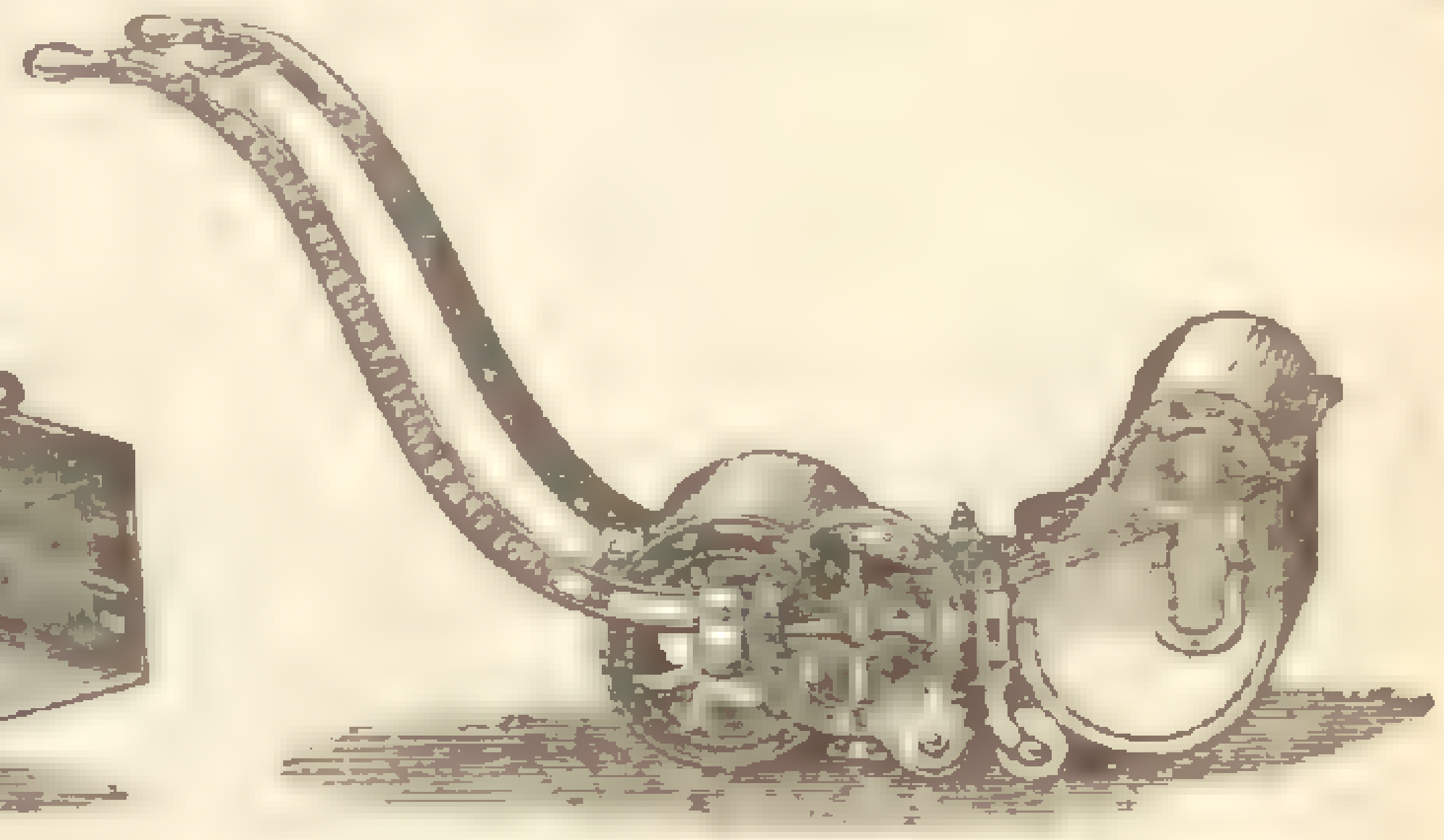

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5557.

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TAB. 5557.

CHAMERANTHEMUM BEYRICHII; var. *variegata.*

Beyrich's Chameranthemum; variegated-leaved var.

Nat. Ord. ACANTHACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. *Calyx* profunde 5-fidus, æqualis. *Corolla* hypocraterimorpha vel elongato-infundibuliformis, tubo longo gracili, limbo subæquali. *Stamina* 4 fertilia, infra os tubi paulove profundius inserta, inclusa, per paria basi contigua; antheræ staminum majorum 2-loculares, minorum 1–2-loculares. *Capsula* interne depressa, valvis contiguis asperma, superius 2-locularis 4-sperma; depressimentum adnatum. *Semina* discoidea, retinaculis suffulta.—Herbæ v. suffrutices Brasilienses, *habitu* Eranthemi *sed nani, floribus etiam minoribus.* Spica *floribus oppositis, parvibracteatis. Nees in De Cand. Prod.*

CHAMERANTHEMUM *Beyrichii;* caule petiolisque strigoso-tomentosis, foliis ovalibus oblongisve margine subscaberulis.

CHAMERANTHEMUM Beyrichii. *Nees in Lindl. Introd. ed.* 2. *p.* 285, *et in Mart. Fl. Bras. p.* 155. *t.* 28.

Var. *variegata;* foliis albo-variegatis.

The pretty plant here figured was sent to the Royal Garden by Mr. Bull, of Chelsea, in 1864, and flowered in March of the following year. It is a native of South Brazil, having been discovered by the traveller Beyrich, and since gathered by various collectors. According both to the description of Nees, and to our own specimens, it is a very variable plant in stature and in the form of the leaves. Nees describes a state with the leaves on long petioles, and their surface variegated with red; so that other showy forms may be worth cultivation, and one day find a place in our stoves.

DESCR. A rather slender herb, one to three feet high, sparingly branched. *Stem* and *branches, peduncles* and *petioles,* covered with strigose pubescence. *Leaves* shortly petioled, two to five inches long, oblong ovate-oblong or almost lanceolate-oblong, scarcely acute, minutely scabrid on the upper surface and margins, green or variegated with white.

Panicles strict, erect, branched, many-flowered; branches slender, elongate. *Bracts* small, shorter than the calyces. *Calyx-lobes* narrow, oblong-lanceolate, acute, glandular-pubescent. *Corolla* white, one and a half inch in diameter; *tube* rather slender, slightly curved; *lobes* of the limb longer than the tube, equal, spreading oblong, waved. *Stamens* united at the very base in pairs; *anthers* included, those of the longer stamens linear-oblong, with two unequal cells; those of the smaller, one-celled.—*J. D. H.*

Fig. 1. Calyx and style. 2. Tube of corolla, laid open. 3. Pair of stamens. 4. Ovary. 5. Young capsule:—*all but Fig. 5 magnified.*

W. Fitch, del. et lith.

Vincent Brooks imp.

TAB. 5558.

LUISIA PSYCHE.

Butterfly-flowered Luisia.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Sepala herbacea, linearia, lateralibus labello suppositis, dorsali minore. *Petala* dissimilia, tenuiora, sæpius longiora, patentissima vel fornicata. *Labellum* indivisum, sæpius auriculatum, cum columnâ continuum, dependens, inappendiculatum, nunc convexum, nunc concavum et medio constrictum. *Columna* nana, carnosa, apoda. *Stigma* anticum, circulare, rostello obtuso obsoleto. *Pollinia* 2, cereacea, postice excavata; caudiculâ latâ brevi triangulari, glandulâ membranaceâ replicatâ. *Anthera* subrotunda, 2-locularis, valvulis macilentis.—Herbæ *epiphytæ, caulescentes, erectæ, junceæ, Asiæ et Americæ tropicæ.* Folia *teretia, rigida.* Flores *parvi, obscure virides vel purpurascentes. Lindl.*

LUISIA *Psyche*; foliis teretibus crassis, spicis brevissimis paucifloris, sepalo dorsali ligulato-fornicato, lateralibus angustioribus per dorsum carinatis, petalis cuneato-oblongis subacutis, labello basi utrinque auriculato, ante auriculas a basi utrinque minute semicordato transverse obovato subacuto, limbo minute lobulato. *Rchb. fil. in. Gard. Chron.*

LUISIA Pysche. *Rchb. fil. in Mohl et Schlecht. Bot. Zeit.* 1863, *p.* 98, *et in Gard. Chron.* 1865 ('New Plants,' n. 312).

The genus *Luisia* consists almost exclusively of inconspicuous, taper-leaved plants, with much the habit of *Vanda teres.* There are, however, a few exceptions to the above rule, the most remarkable of which are an unintroduced plant (the *Luisia volucris* of Lindley) the flowers of which resemble birds with narrow outspread wings, and the species now figured for the first time, whose singular blossoms have quite an insect-like character.

It was discovered in Burmah by the Rev. C. S. Parish, by whom a few living specimens were sent to Messrs. Hugh Low and Co., of the Clapton Nursery. It is well described by Prof. Reichenbach, both in the 'Botanische Zeitung' of 1863, and in the 'Gardeners' Chronicle' of 1865. It grows

FEBRUARY 1ST, 1866.

slowly, but is easily managed, and flowers freely during the spring and summer.

DESCR. *Plant* about a foot high. *Leaves* thick, round and tapering, six inches long. *Flowers* produced, two or three in succession, on a very short spike. *Sepals* and *petals* a pale yellowish-green, the dorsal sepal being more concave and broader than the side sepals, which are ligulate, keeled along the back, and blunt at their extremities, and not half the length of the petals; the latter, which hang down like the ears of a rabbit, are more than an inch long, cuneate-oblong, and rather sharp at the end. *Lip* not so long as the petals, fleshy, convex, with two auricles at its base, the portion above which is transversely obovate, and slightly cordate, its disk is beautifully marked—after the manner of some species of *Ophrys*—with dark violet-purple spots on a green ground. *Column* very dwarf.—*J. B.*

Fig. 1. Front view of flower. 2. Pollen-masses:—*magnified.*

5559.

W Fitch del et lith

[illegible]

TAB. 5559.

THIBAUDIA CORDIFOLIA.

Cordate-leaved Thibaudia.

Nat. Ord. VACCINIEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. (*Vide supra,* TAB. 4303.)

THIBAUDIA *cordifolia;* ramulis glabratis teretibus, foliis breviter petiolatis oblongis obtusis integerrimis basi cordatis 5–7-plinerviis, petiolo pubescente, floribus subcapitatis, capitulis terminalibus nutantibus bracteis amplis oblongis concavis subsericeis involucratis, floribus breviter pedicellatis, calycis tubo depresso, limbo breviter 5-dentato, corolla tubuloso-ventricosa extus pubescente, ore contracto 4–6-dentato, filamentis brevibus latis, antheris lineari-oblongis in tubum sulcatum elongatum apice 2-rimosum productis.

THIBAUDIA cordifolia. *H. B. and Kunth, Nov. Gen. et Sp. v.* 3. *p.* 271. *t.* 255. *De Cand. Prodr. v.* 7. *p.* 563.

PROCLISIA cordifolia. *Klotzsch in Linnæa, v.* 24. *p.* 32.

The beautiful plant here figured was exhibited by Mr. Bateman at the Horticultural Society, in December last, under the name of *Thibaudia Ocanensis*; it is clearly however the *T. cordifolia* of Kunth, a native of the alpine regions of the Andes of Bogotá, Merida, Caraccas, Loja, and other provinces of New Granada and Ecuador. According to an observation of Dr. Triana in our Herbarium, it is called "Uva de Anis" in the Bogotá Andes.

DESCR. A branched shrub, nearly glabrous, except on the tips of the branches, petioles, and inflorescence; *branches* terete, pubescent with spreading hairs towards the tips. *Leaves* one and a half to three inches long, coriaceous, ovate-oblong, obtuse, quite entire, margins slightly recurved, glabrous above, also below, or there covered with minute scattered glandular dots, five- to seven-nerved at the base; *petioles* very short, pubescent, as are the nerves slightly beneath. *Racemes* reduced to a crowded head of flowers, which is clothed at the base with oblong, concave, imbricating, rather silky bracts. *Flowers* on short, pubescent peduncles and pedicels, nearly one inch long, bright-red, white at the mouth of the corolla. *Calyx-tube* sub-globose, but depressed, and almost truncate at the base; *teeth* five, short. *Corolla* tubular, but ventricose, between cylindric and oblong, much contracted at the mouth, with five short, spreading lobes. *Stamens* with very short broad filaments, and long, oblong anthers, their cells terminating in a long, straight, double tube, which opens by two anticous, subterminal slits. The flowers are occasionally tetramerous or hexamerous. *J. D. H.*

Fig. 1. Flower. 2. Calyx, ovary, and style. 3 and 4. Anthers:—*all magnified.*

5560.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5560.

BAUHINIA TOMENTOSA; var. *glabra.*

Downy Bauhinia; glabrous var.

Nat. Ord. LEGUMINOSÆ.—DIADELPHIA DECANDRIA.

Gen. Char. Calycis tubus brevis v. elongatus, limbus ante anthesin apice clausus v. contractus, per anthesin varie fissus. *Petala* 5, parum inæqualia, imbricata, summo intimo. *Stamina* 10 v. pauciora, libera v. breviter connata; antheræ versatiles, longitudinaliter dehiscentes. *Ovarium* sæpissime stipitatum; stylus brevis v. elongatus. *Legumen* oblongum v. lineare, rectum v. obliquum, indehiscens v. 2-valve, intus continuum v. septatum. *Semina* compressa, albuminosa; cotyledones planæ; radicula brevis.—Arbores *v.* frutices *erectæ v. scandentes, interdum cirrhiferæ.* Folia *simplicia, 2-loba v. 2-foliolata.* Flores *racemosi, corymbosi v. paniculati.*

BAUHINIA *tomentosa;* fruticosa, inermis, pubescenti-tomentosa v. glabrata, foliis basi cordatis rotundatis v. truncatis ad medium 2-lobis, lobis obtusis 3-nerviis, pedunculis 1–2-floris, calyce spathaceo tubo brevi, petalis flavis obovatis v. obcordatis, staminibus 10, fertilibus fere liberis, ovario stipitato, legumine tenui plano lineari basin versus sensim angustato venoso acuto.

BAUHINIA tomentosa. *Linn. Sp. Pl. p.* 536. *De Cand. Prod. v.* 2. *p.* 514. *Burm. Zeyl. p.* 44. *t.* 18. *Harv. et Sond. Fl. Cap. v.* 2. *p.* 275.

Var. *glabrata;* tota tenuiter pubescens v. glabrata.

This handsome shrub was introduced to the Royal Gardens, Kew, by M. Monteiro, who sent seeds in 1860 from Bembe, in Benguela, the plants from which flowered in our stoves in November of last year. The species itself (of which this is rather a glabrous form) is a native of Ceylon, Malabar, and other parts of India; it is also commonly cultivated in the tropics of both the old and new worlds. In Africa, it is also found in Natal; by Kirk at Senna, during Livingstone's late expedition; and in the interior of Dammara Land, by Baines and Chapman.

DESCR. A slender shrub in our stoves, four to five feet high, with long, rather pendulous branches, the branchlets, petioles, under surface of the leaves, and inflorescence glabrous

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or pubescent. *Leaves* nearly orbicular in circumscription, one to two and a half inches in diameter, two-lobed to the middle, rounded cordate or truncate at the base; *lobes* obtuse, each three- to four-nerved; *petioles* slender; *stipules* subulate. *Racemes* small, few-flowered, terminal. *Flowers* pale golden-yellow, with a deep-purple blotch at the base of the upper petal. *Calyx* spathaceous, rather short. *Petals* obovate or obcordate, concave, connivent. *Stamens* ten, all fertile, nearly free. *Legume* flat, linear, but gradually narrowed downwards, acute, glabrous or puberulous.—*J. D. H.*

Fig. 1. Calyx and stamen. 2. Ovary and base of calyx with the stamens removed:—*both magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5561.

EULOPHIA EUGLOSSA.

Pretty-lipped Eulophia.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Perianthium explanatum, sepalis petalisque ascendentibus, subæqualibus, aut omnino liberis, aut cum ungue magis minusve producto columnæ connatis. *Labellum* cornutum, aut brevius calcaratum, sessile, venis cristatis, barbatis vel omnino brevibus, sæpius trilobum, nunc indivisum. *Columna* semiteres, marginata. *Anthera* 1-2-locularis. *Pollinia* 2, postice biloba vel cava, caudiculâ lineari brevi, glandulâ transversâ.—Herbæ *terrestres, pseudobulbosæ*. Folia *longa, membranacea, plicata vel pluries costata*. Scapi *radicales, multiflori. Lindl. Gen. et Sp.*

EULOPHIA *euglossa;* pseudobulbo elongato sursum attenuato, foliis cuneato-oblongis acutis, pedunculo basi vaginato racemoso, bracteis lineari-lanceis setaceo-acuminatis flores excedentibus, mento modico, sepalis petalisque ligulatis acuminatis subæqualibus, labello trifido, laciniis lateralibus acutangulis, laciniâ mediâ semioblongâ acutâ hinc undulatâ, carinulis obscuris geminis in disco inter lacinias posticas, calcari subclavato, ovarii pedicellati dimidiam non attingente, antherâ apice tumidâ obtusâ. *Rchb. fil.*

GALEANDRA euglossa. *Rchb. fil. in Bot. Zeitung* (1852), *v.* 9. *p.* 35. *Lindl. West Afr. Orchids, Proceed. Linn. Soc.* (*May*, 1862.)

This singular plant was sent to Kew by Mr. G. Mann, from the banks of the Old Calabar river, on which—as indeed on all the streams that form the great delta of the Niger—Orchids seem to abound. Unfortunately they rarely possess sufficient beauty to recommend them to the notice of the cultivator, as is the case with our present Eulophia which, notwithstanding its prettily-marked lip, can by no means be considered an attractive object. Its long pseudobulbs, tapering from the base upwards, are in their shape and appearance not unlike the fossil Calamites that are found so plentifully in the different beds of the New Red Sandstone, and with which we are all of us familiar.

E. euglossa was so named by Prof. Reichenbach, who met with it originally among some undetermined species from the

West Coast of Africa, in Dr. Lindley's Herbarium. It seems to have been first introduced by the Messrs. Loddiges, then it was sent to Consul Schiller, and still more recently, as already noted, to the Royal Gardens at Kew, where it happened the other day to be in bloom when the great German Orchidist visited that establishment and drew up the description that I have had much pleasure in transcribing.

This *Eulophia*, like its congeners, is a terrestrial plant, and must be treated accordingly. Coming as it does from one of the sultriest regions on the earth's surface, it will of course require a good deal of heat.—*J. B.*

Descr. *Pseudobulbs* a span or more high, cylindrical, tapering in a fusiform manner at the end. *Leaves* cuneate, oblong, acute, a foot long. *Peduncle* elongate, with scales beneath, racemose at the top. *Raceme* many-flowered, flowers distant. *Bracts* linear-lanceolate, very acuminate, longer than the flowers. *Sepals* and *petals* lanceolate, acuminate, nearly equal, spreading, green. *Lip* trifid, lateral segments semi-ovate, acute, greenish-yellow, middle segment semi-oblong, acute, somewhat crisp, white, with some radiating purple streaks on the base, and with two carinæ between the posterior segments. *Spur* clavate, green, not half the length of the pedicellate ovary. *Column* clavate. *Anther* with a terminal umbo.—*Rchb. fil.*

Fig. 1. Side view of lip. 2. Front view of ditto. 3. Column. 4. Pollen-masses:—*magnified.*

W. Fitch del. et lith.

Vincent Brooks Imp.

TAB. 5562.

TILLANDSIA XIPHIOIDES.

Buenos Ayres Air-plant.

Nat. Ord. BROMELIACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. *Calyx* 3-partitus, laciniis subæqualibus. *Petala* 3 unguibus in tubum conniventibus v. convolutis, limbo patente. *Stamina* 6, hypogyna, filamentis linearibus alternis sæpius petalis adhærentibus. *Ovarium* liberum, 3-loculare; stylus filiformis, stigmate 3-fido, ovulis in loculorum angulo centrali 2-seriatim affixis. *Capsula* cartilaginea, linearis v. ovata, 3-locularis, loculicide 3-valvis, valvis endocarpio mox soluto duplicatis, explanatis v. tortis. *Semina* plurima, ex basi septorum erecta, stipitata, stipite pilis papillosis cincto; testa dura.—Herbæ *plerumque epiphytæ lepidotæ*. Caules *foliosi*. Flores *spicati v. paniculati, bracteati, rarius solitarii. Endl.*

TILLANDSIA *xiphioides*; tota argenteo-tomentosa, foliis dense rosulatis patenti-incurvis, e basi lata longe late subulatis marginibus incurvis v. involutis, scapo brevi v. elongato simplici, spica disticha lineari-oblonga multiflora, bracteis anguste oblongo-lanceolatis acuminatis dense imbricatis, floribus albis, sepalis anguste subulato-lanceolatis attenuato-acuminatis, petalorum ungue elongato-lineari, lamina oblongo-obovata acuminata recurva crispata, stigmatis lobis brevibus linearibus recurvis.

TILLANDSIA xiphioides. *Ker in Bot. Reg. t.* 105.

A remarkably pretty and deliciously-scented plant, for which the Royal Gardens are indebted to Dr. Rayner, of Uxbridge, who sent the flowering specimen figured here in May, 1865; it is called by Ker a native of Buenos Ayres, but the only native specimens I have were gathered by the late Dr. Gillies, near Mendoza, where it is abundant on trees and stones along the bases of the Cordillera, and is much prized for its delicate fragrance.

DESCR. A small rigid herb, covered with grey silvery to-

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mentum. *Leaves* crowded, rosulate, four to six inches long, half an inch broad at the base, broadly subulate with recurved margins that are involute at the tip. *Scape* long or short. *Spike* three to four inches long, distichous, compressed, of many closely imbricating, linear-oblong bracts, two inches long. *Flowers* numerous, snow-white. *Sepals* linear lanceolate, acuminate. *Petals* with a slender, linear claw, one inch long, and broadly obovate acuminate, reflexed white, crisped blade.—*J. D. H.*

Fig 1. Calyx, style, and stigma. 2 Petal and stamen. 3. Ovary:—*all magnified.*

JANUARY, 1866.

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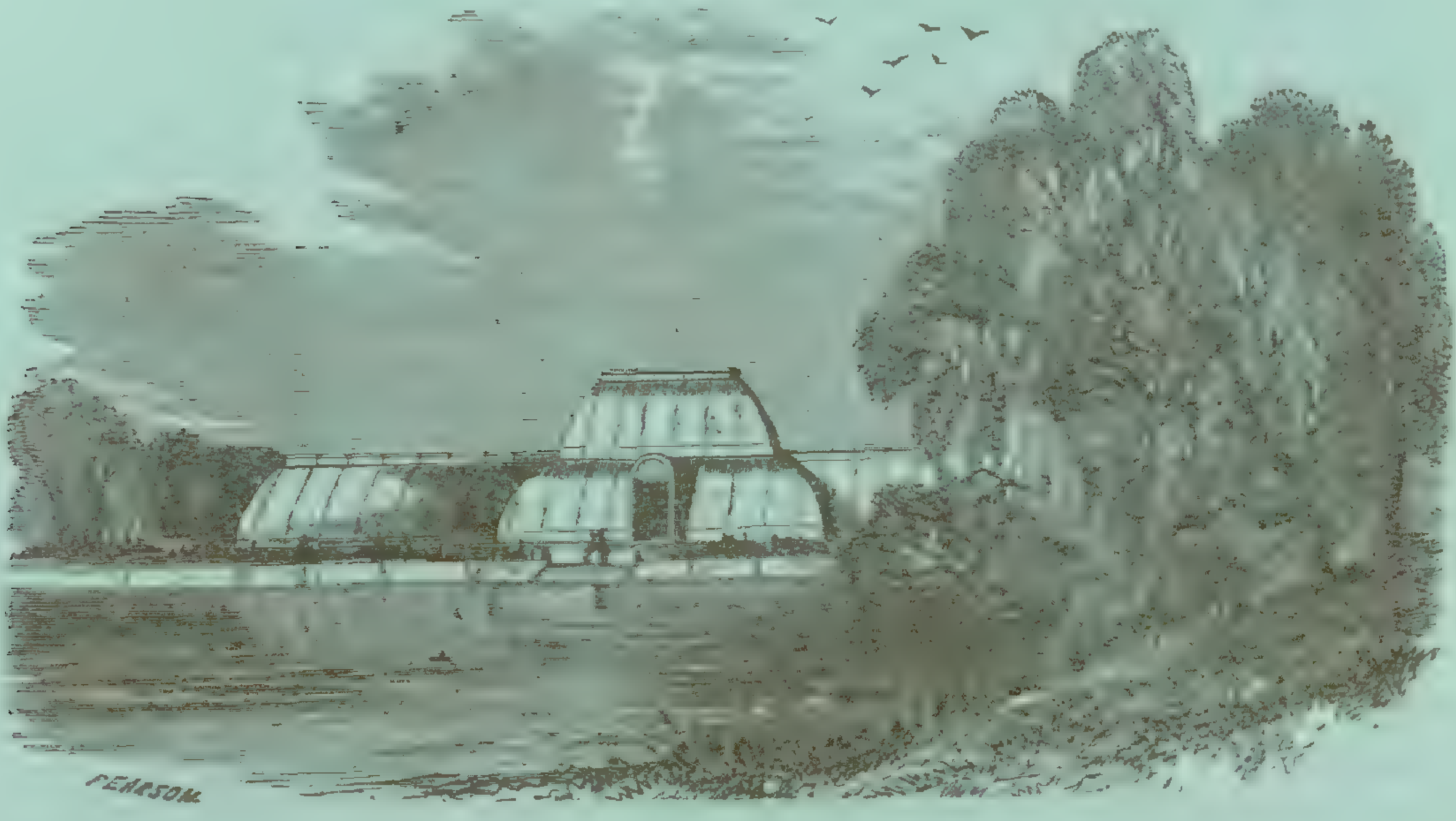

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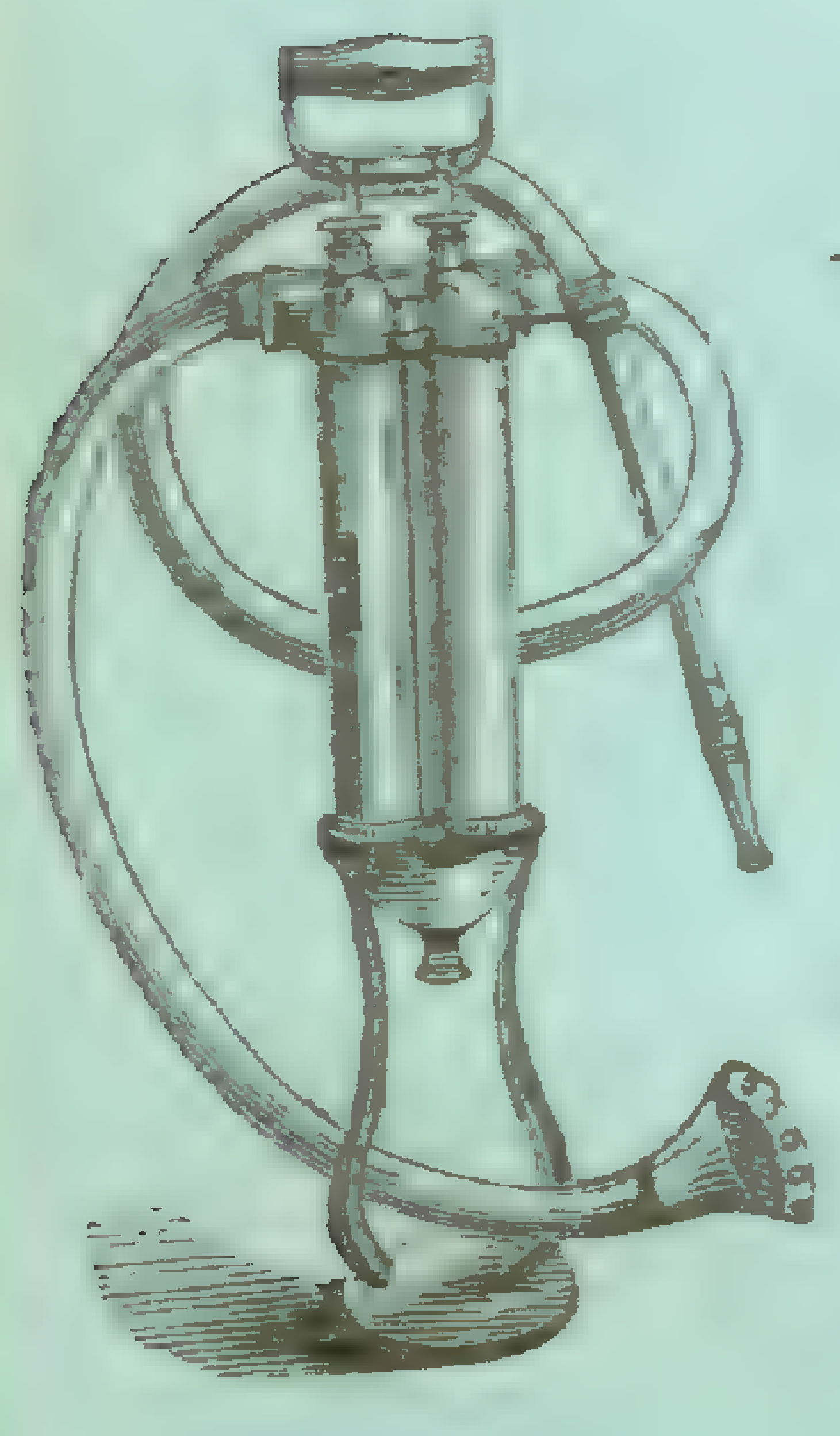

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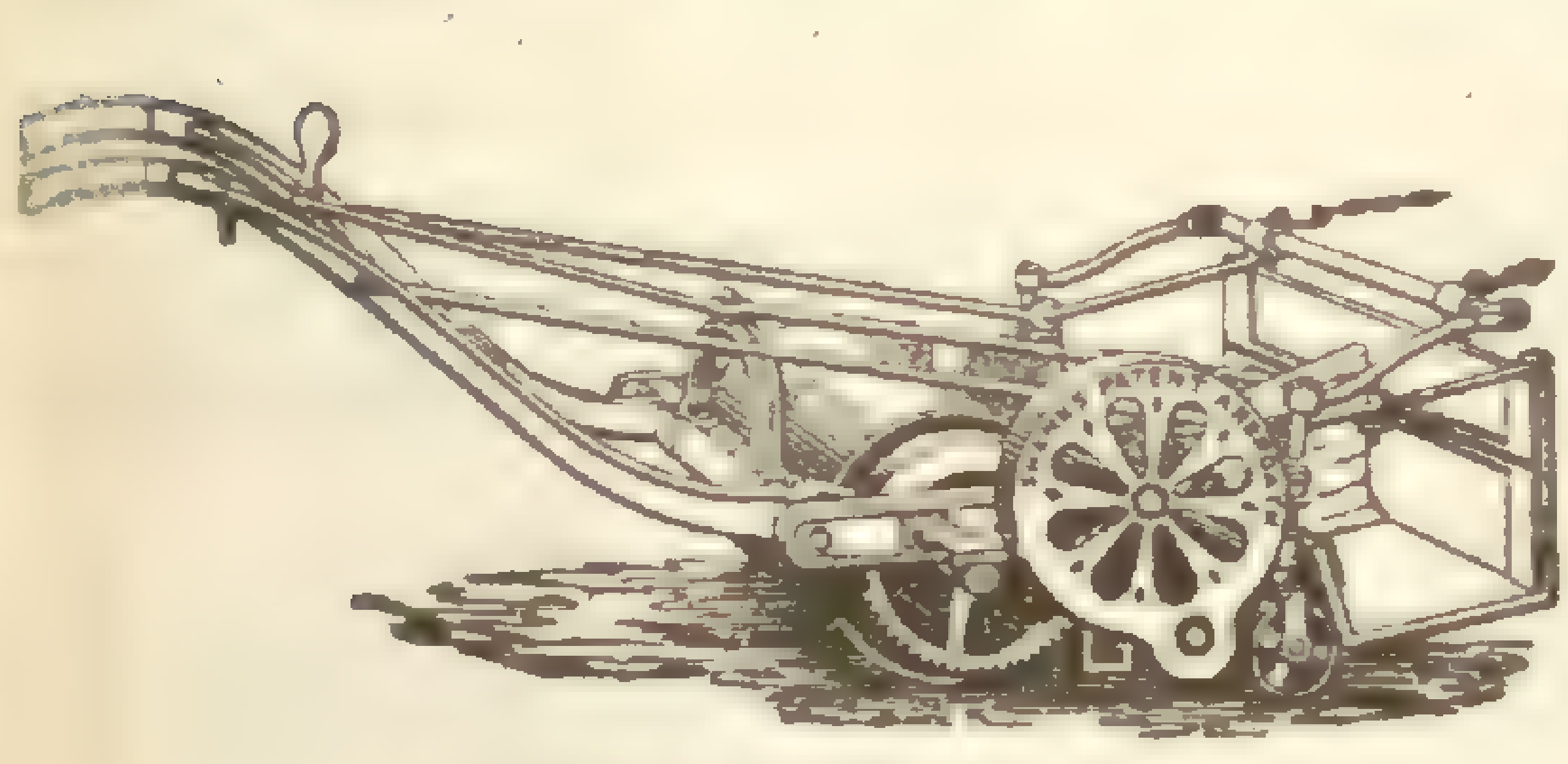
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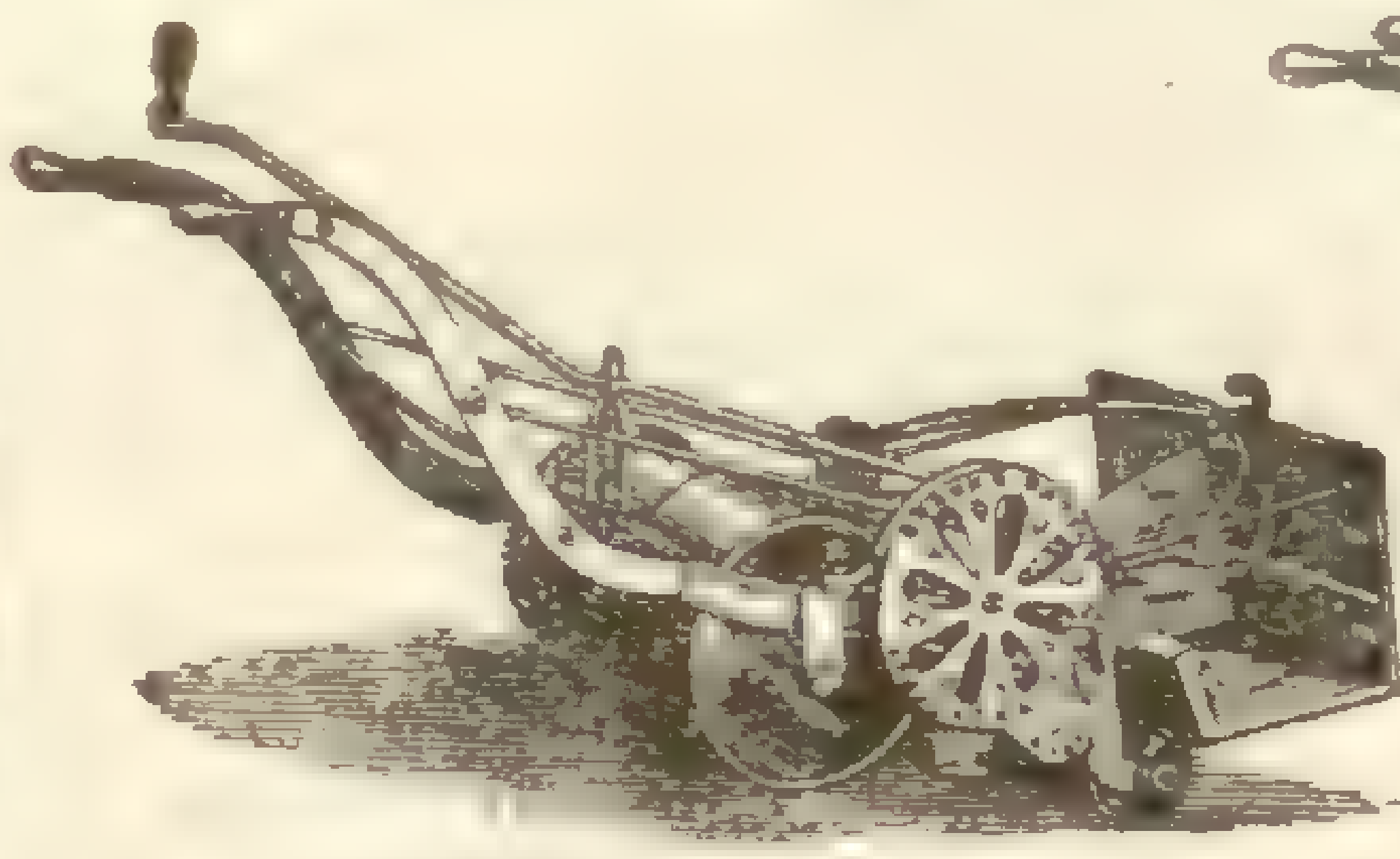
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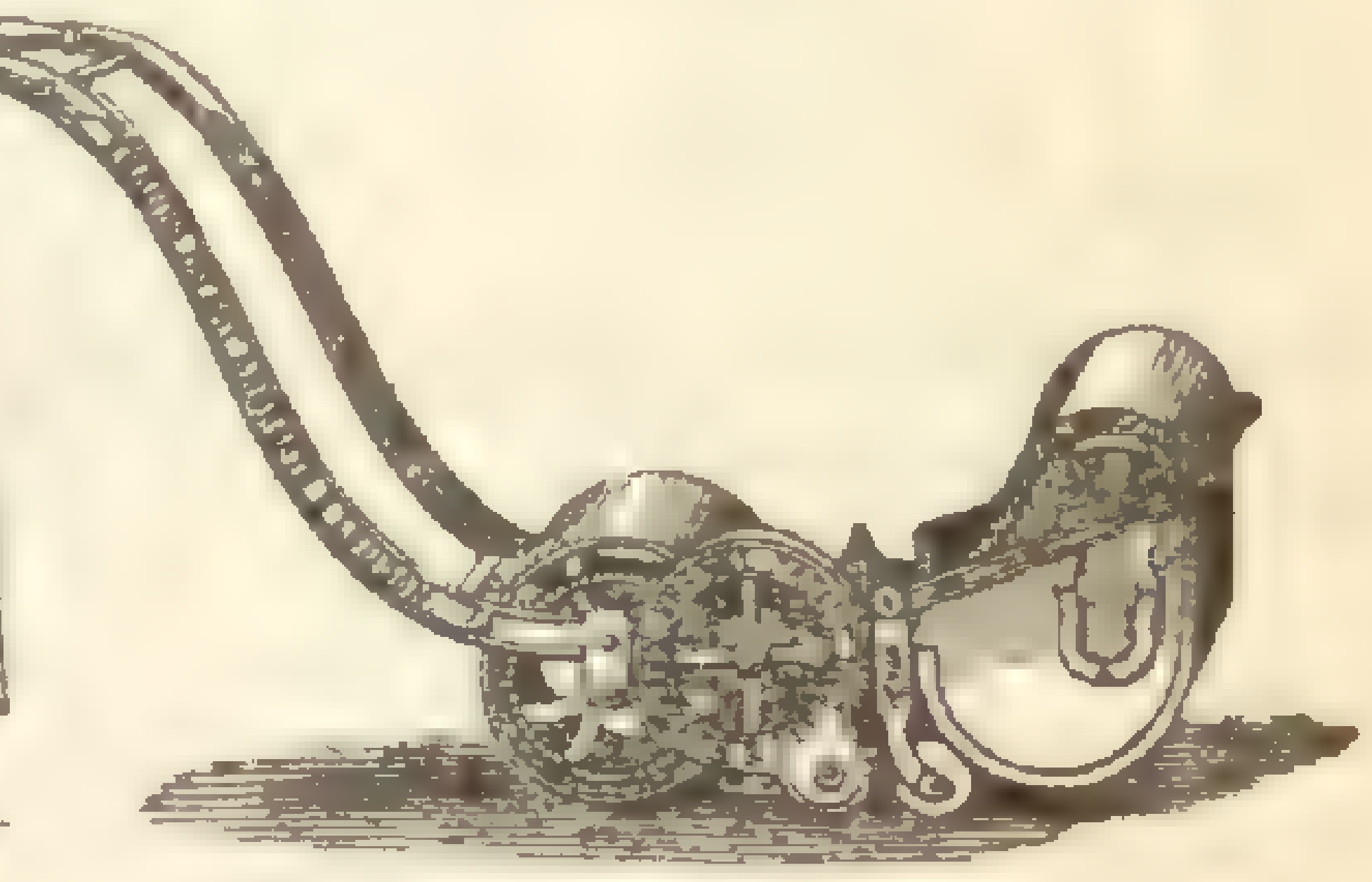
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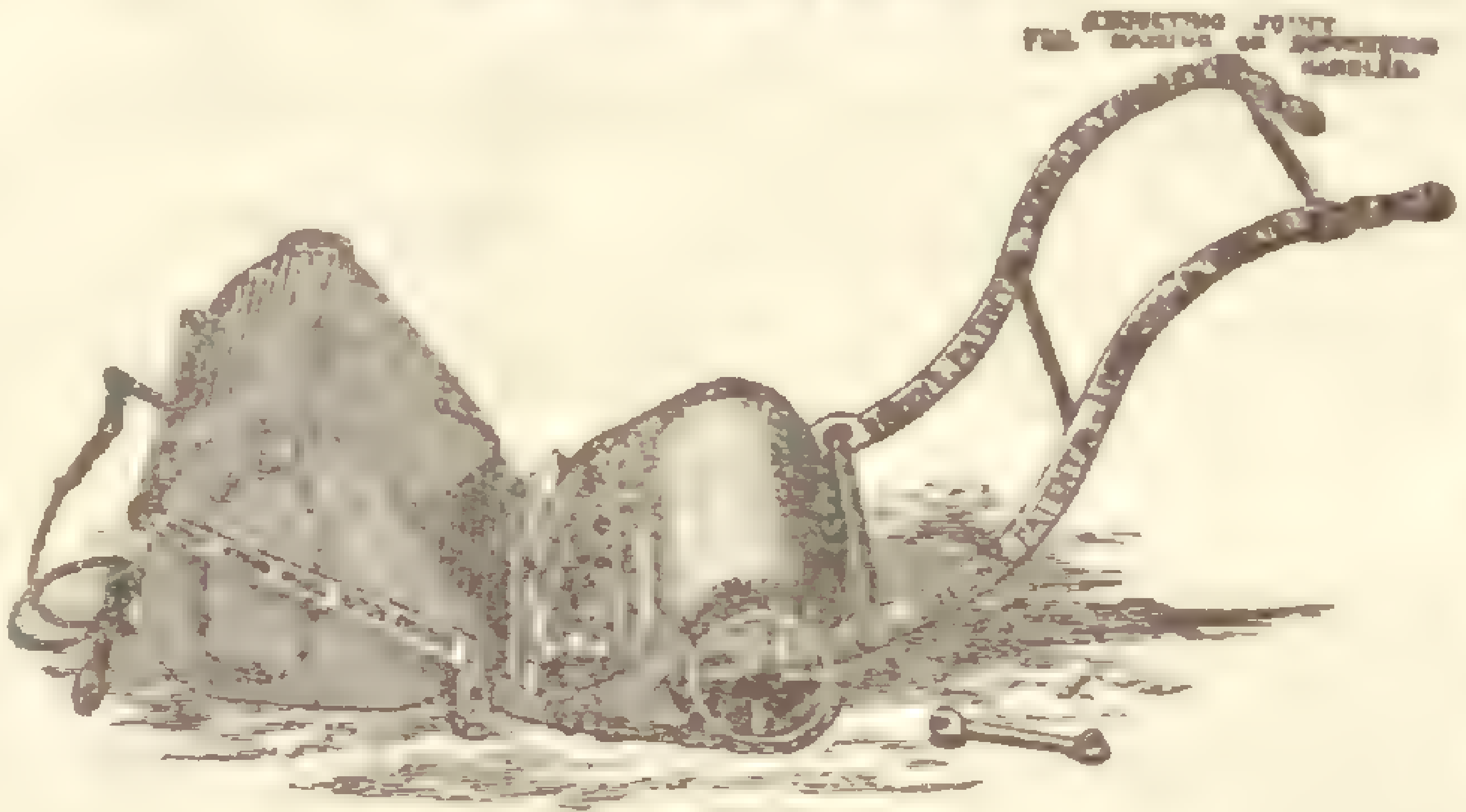

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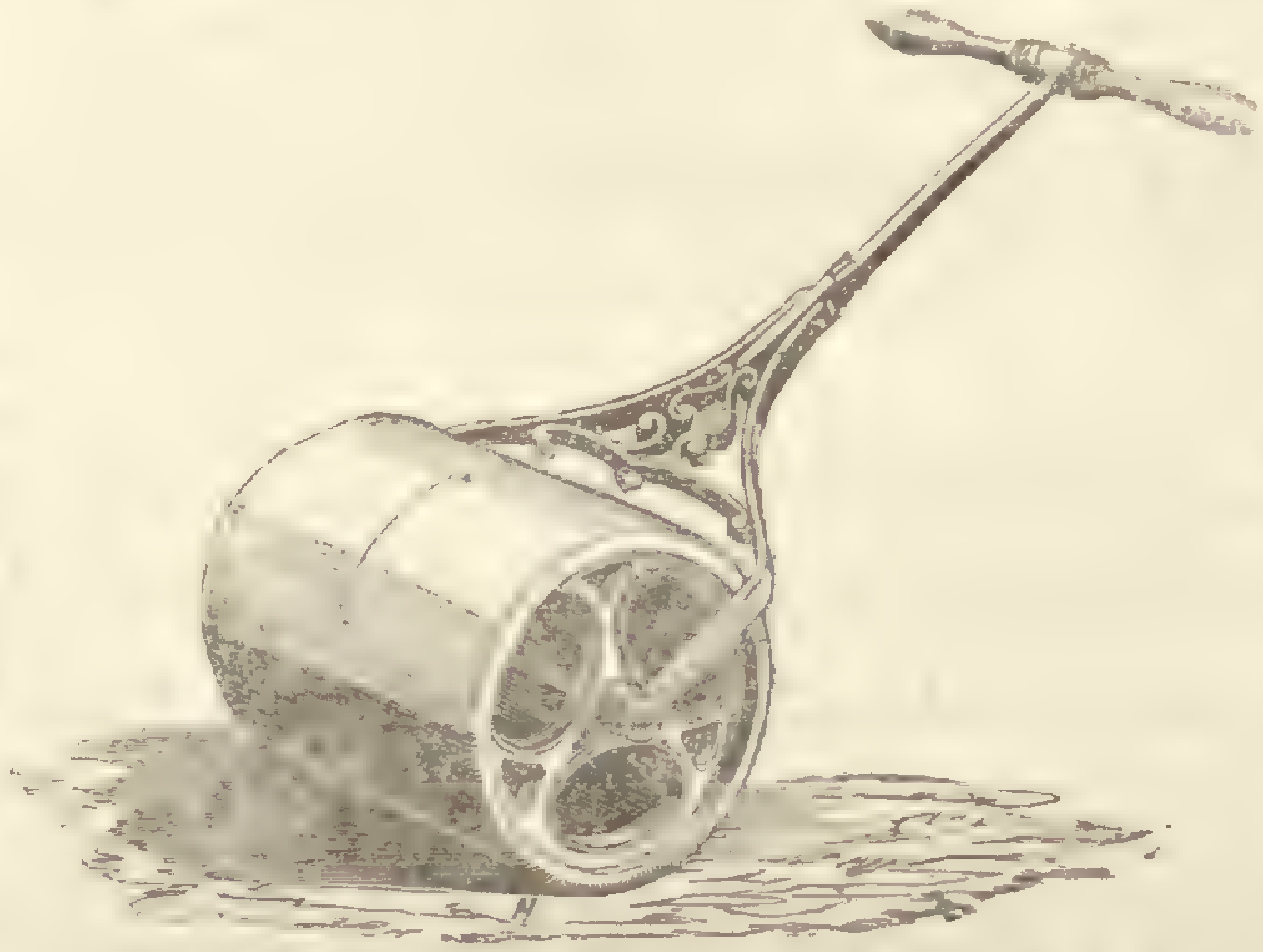

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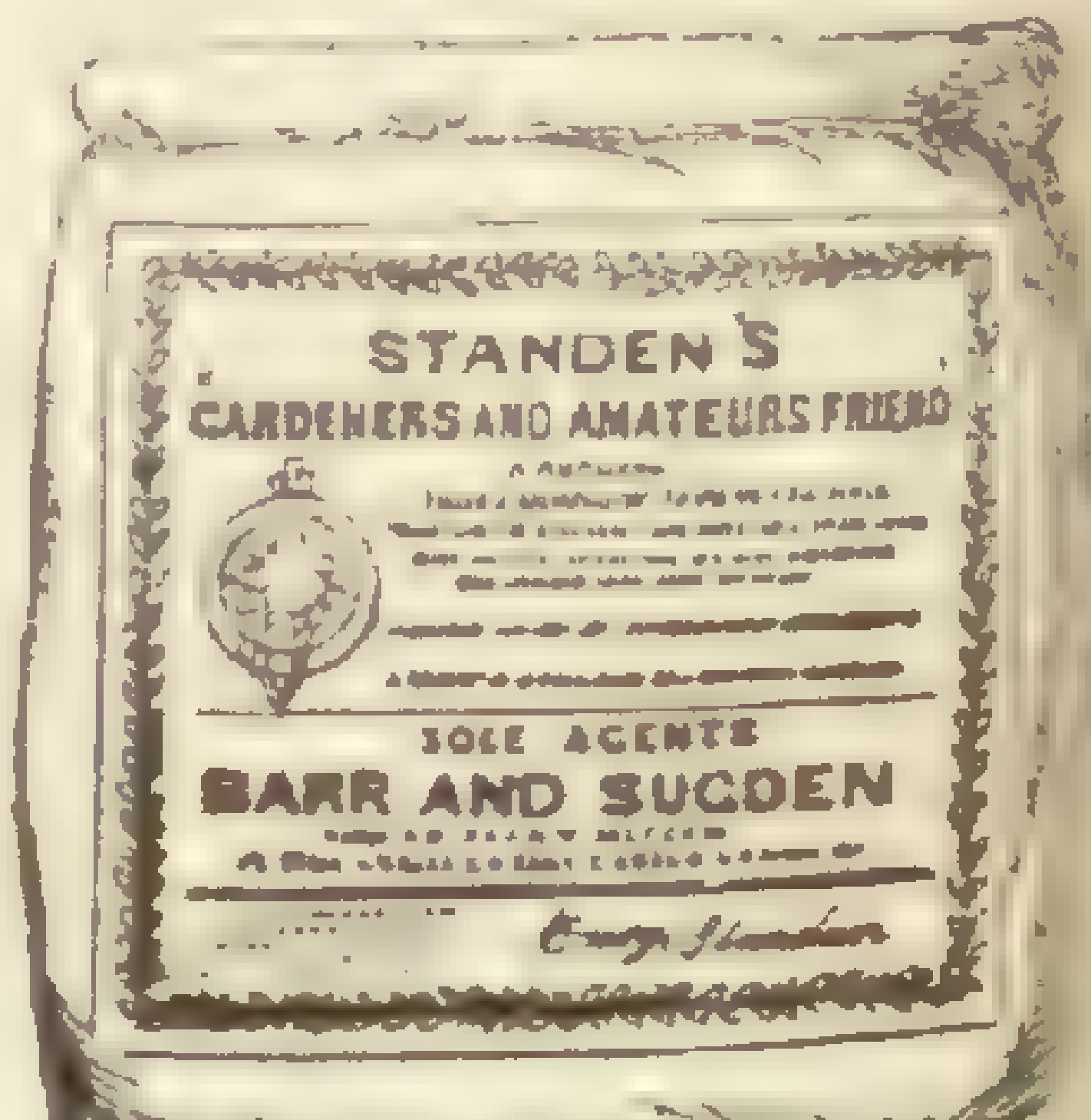
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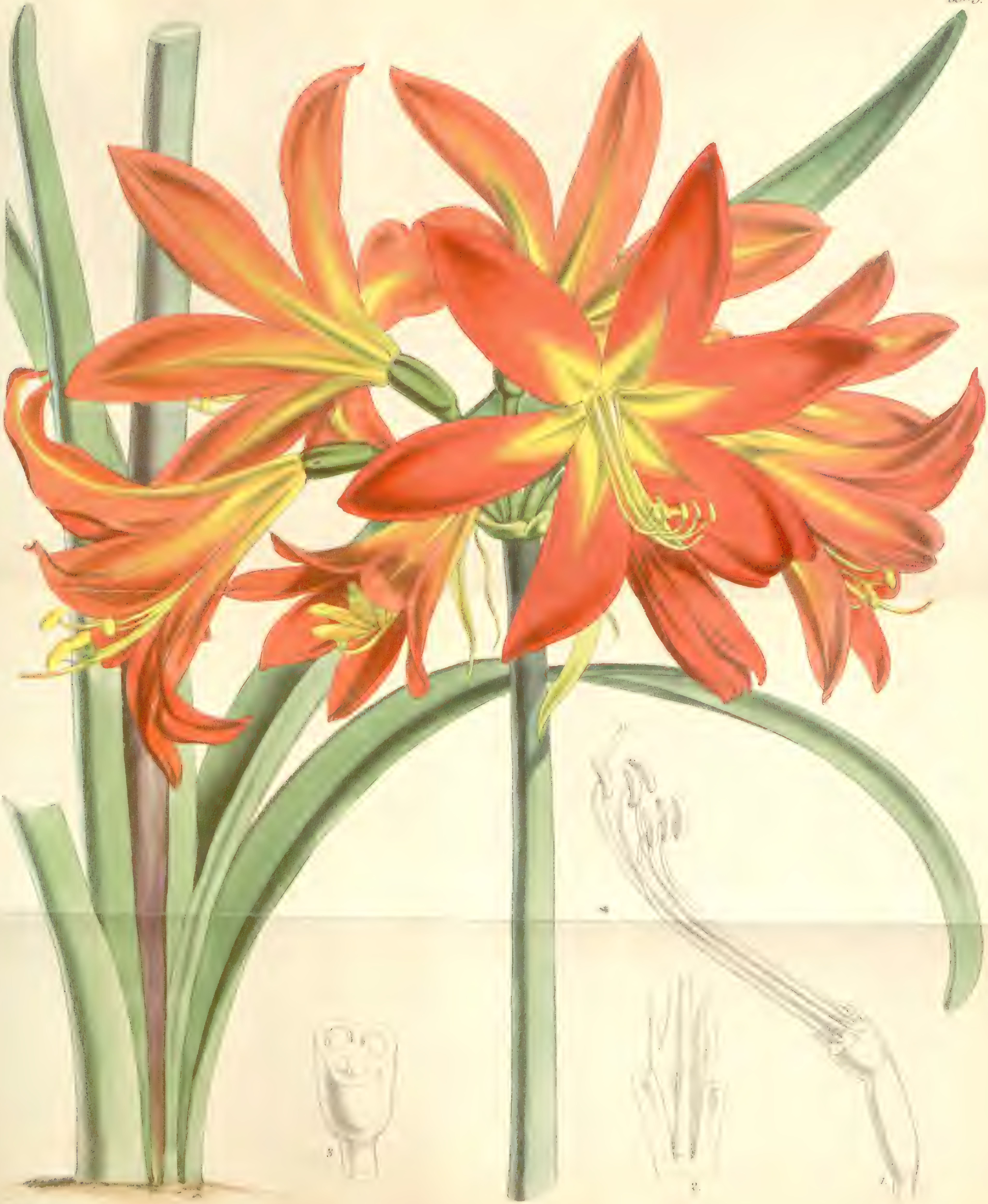

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TAB. 5563.

HABRANTHUS FULGENS.

Brilliant-flowered Habranthus.

Nat. Ord. AMARYLLIDEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. Perianthium campanulatum, tubo brevi ad faucem incrassato, squamuluso, limbi laciniis subæqualibus. *Stamina* fauci inserta, libera, fasciculata, valde inæqualia. *Stylus* declinatus, sursum curvatus, stigmate 3-fido. *Capsula* 3-sulca. *Semina* loculis 2-seriata, horizontalia, compressa; *testa* crustacea, alia.—Herbæ Americæ tropicæ *et* extratropicæ australis *indigenæ;* radice *bulbosa.* Folia *angusta, 2-faria, linearia, flaccida.* Scapus *cavus, multiflorus.* Spatha *apice 2-fida.—Herbert.*

HABRANTHUS *fulgens;* elata, robusta, foliis glaucescentibus 10–12-pollicaribus linearibus obtusis recurvis dorso convexis, scapo tereti glauco basi purpurascente, spatha lacera, floribus 6–8 pedicellatis amplis 4–5 poll. diametro, perianthii tubo brevi extus flavo, lobis lineari-oblongis patentibus miniatis basi aureis, squamis 2-cruribus, filamentis flavis, stigmate minute 3-lobo.

A truly magnificent plant, sent by Messrs. Backhouse, of York, with whom it flowered in April of last year.

As a species, it approaches nearest to *H. phycelloides*, Bot. Reg. t. 1417, but the whole plant is more than twice as large, and as far as can be judged from the indifferent figure given of that plant, this further differs in the brighter colour, yellow filaments, larger broader perianth-lobes which spread widely, and in the character of the corona at the base of the lobes, which in *H. phycelloides* forms an annular bearded membrane, but in this consists of bifid fleshy scales.

DESCR. *Bulb* not seen. *Leaves* glaucescent, ten to twelve inches long, half to three-quarters of an inch broad, linear, recurved, obtuse, convex, and scarcely keeled at the beak. *Scape* one to one and a half foot high, as thick as the little finger, glaucous green above, purple below. *Flowers* seven in this specimen, four to five inches across, bright scarlet;

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tube yellow externally; *lobes* linear-oblong, acute, golden-yellow at the base, the yellow forming a defined triangular mark; *scales* at the base of the tube of corolla six, forked. *Stamens* with yellow filaments. *Stigma* minutely three-lobed.—*J. D. H.*

Fig. 1. Flower, with the perianth-segments removed. 2. Base of perianth-tube and scales. 3. Transverse section of ovary:—*all magnified.*

5564.

W. Fitch del. et lith.

Vincent Brooks, Imp.

TAB. 5564.

DENDROBIUM DIXANTHUM.

Double-tinted yellow Dendrobium.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

DENDROBIUM *dixanthum;* caule erecto teretiusculo basi valde tenui stipitato sesquipedali, racemis brevibus lateralibus 2–5-floris ex caulibus vetustis, mento parvo obtusangulo, sepalis lanceolatis acutis, petalis oblongis acutis sublongioribus margine minute denticulatis, labello ab ungue lato hastato subquadrato obtusangulo antrorsum dilatato, medio antice minute emarginato, toto margine minute serrulato denticulato, carinulâ transversâ per unguis basin, nervis fere omnibus lineis cristularum obtectis.

DENDROBIUM dixanthum. *Rchb. fil. in Gard. Chron.* (1865) '*New Plants,*' n. 301.

Moulmein, that inexhaustible mine of new *Dendrobia*, is the native country of this pretty plant which was discovered in 1864 by the Rev. C. P. S. Parish and sent to Messrs. H. Low and Co. of Clapton. It grows rapidly and flowers freely (in the early summer) under ordinary treatment. Unfortunately the leaves fall off the stems—old and young alike—before the flowers have had time to expand, a circumstance that detracts materially from their effect.

In Professor Reichenbach's otherwise accurate description of the plant in the 'Gardeners' Chronicle' he speaks of the flowers as appearing singly on the side of the old stems, a mistake which the examination of additional examples—produced at Knypersley and elsewhere—has enabled me to correct. The name is in allusion to the two tints of yellow which are found in its blossoms.

In the form of its leaves—which are grassy and very sharp-pointed—this species resembles *D. aduncum*, from which however it is otherwise entirely distinct.

DESCR. *Stems* upright or nearly so, smooth, somewhat club-shaped, about half a yard high. *Leaves* grassy, three or four inches long, very sharp-pointed, falling off before any flowers appear. *Racemes* short, two- to five-flowered. *Sepals* (which like the petals are a pale yellow) lanceolate, sharp-pointed, forming at their base a short mentum or chin. *Petals* oblong, acute, less than an inch long, a little wider than the sepals, faintly toothed at the margin; *lip* spreading out in front from a broad hastate nearly square blunt-angled claw, a little serrated along the whole extent of its margin, traversed by a bar across its base, of the same colour as the petals, excepting a deep orange tint on its disk.—*J. B.*

Fig. 1. Column and claw of labellum. 2. Lip:—*magnified*.

5565

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5565.

GLADIOLUS PAPILIO.

Butterfly-flowered Gladiolus.

Nat. Ord. IRIDEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra,* TAB. 5427.)

GLADIOLUS *Papilio ;* elatus, glaberrimus, foliis 2–3-pedalibus lineari-ensiformibus striatis, spica pedali laxiflora, floribus distantibus, spathis cymbiformibus tubum perianthii superantibus, perianthio campanulato ringente, lobis subæqualibus omnibus late obovatis 3 exterioribus et interiorum supremo pallide purpureis basi flavis, interiorum 2-lateralibus medio sanguineo-purpureis et plaga semilunari aurea pictis, stigmate breviter trifido.

The Cape Colony abounds in species of *Gladiolus*, amongst which that now figured appears the most beautiful, though not the most gorgeous, that has hitherto been made known ; nothing can well exceed the delicacy of the pale purple of the upper petals, or the vividness of the deep purple and golden-yellow markings of the lower ones. It was received at Kew, in 1861, from D. Arnot, Esq., of Colesberg, to whom the Royal Gardens are indebted for many excellent plants ; it was also found by Mr. W. Wilson Saunders's collector, Cooper, from whom roots, kindly communicated by Mr. Saunders, flowered here two years later.

DESCR. *Plant* three feet high and upwards, quite glabrous, rather stout. *Leaves* narrow ensiform, gradually attenuated to the long acuminate apex, two to three feet long, one inch broad or upwards, striated, bright green. *Spike* a foot long and more, slender, slightly inclined, many-flowered. *Flowers* one to two inches apart. *Bracts* one to one and a half inch long, cymbiform, acute, longer than the perianth-tube, green, purplish on the back. *Flowers* horizontal, one and a half inch expanse, subcampanulate, with incurved lobes. *Perianth-*

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tube purple, exserted beyond the bract; *lobes* nearly equal in size, all broadly obovate, obtuse; two upper outer segments very pale purple with a faint dash of yellow down the middle; lower outer lobe with a strong purple central mark from the base to the middle, and beyond that a yellow spot; upper inner lobe coloured like the outer lateral; two lower inner lobes with a broad very deep purple central band extending from the base to the middle, beyond which is a broad semilunar golden areole, encircling the end of the purple. *Anthers* linear. *Stigma* shortly three-cleft.—*J. D. H.*

Fig. 1. Ovary, tube of perianth, stamens, style, and stigma:—*magnified.*

W Fitch, del. et lith.

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TAB. 5566.

PERISTROPHE LANCEOLARIA.

Lance-leaved Peristrophe.

Nat. Ord. ACANTHACEÆ.—DIANDRIA MONOGYNIA.

Gen. Char. Calyx æqualis, 5-fidus v. 5-partitus, 2-bracteolatus. *Corolla* resupinata, 2-labiata, labiis planiusculis v. inferiore concavo, superiore apice 3-fido, inferiore integro v. 2-dentato. *Stamina* 2. *Antheræ* angustæ, 2-loculares, loculis recte v. oblique uno pone v. supra altero positis, muticis. *Capsula* 2-valvis, 2-locularis, basi elongata, compressa, sterilis, commissura valvarum plana, sursum compressa, loculis 2-spermis; dissepimentum adnatum, persistens. *Semina* discoidea, retinaculis uncinatis.—Herbæ Indicæ, *floribus speciosis.* Flores *speciosi, sæpissime in capitula 2-bracteata inclusi, capitulis paniculatis.*

PERISTROPHE *lanceolaria;* herbacea, erecta, 2–4-pedalis, caule teretiusculo, ramulis et inflorescentia minute glanduloso-pubescentibus, foliis petiolatis lanceolatis oblongo-lanceolatisve glaberrimis membranaceis, 3–5-poll. longis, paniculis terminalibus dichotome ramosis erectis, capitulis sub-3-floris angustis, bracteolis elongato-subulatis $\frac{3}{4}$ poll. longis, calycis lobis subulatis excedentibus, corolla pallide purpurea, tubo gracili exserto 1–2 poll. longo, limbi labio superiore oblongo pollicari, inferiore multo breviore cymbiformi acuto, antheris rectis loculis superpositis.

PERISTROPHE lanceolaria. *Nees in Wall. Pl. As. Rar. pp.* 111–114, *et in De Cand. Prod. v.* 11. *p.* 496.

JUSTICIA lanceolaria. *Roxb. Fl. Ind. v.* 1. *p.* 121.

Though many species of *Acanthaceæ* are in cultivation, there is perhaps no order of plants which promises so many future valuable additions to our stoves. A large proportion of the species are very beautiful plants, they are most easily propagated, they come into flower in the dead of winter, when our houses are often denuded of other ornaments but of the commonest sorts, and continue in flower for many weeks in succession. Such is the case with the present beautiful plant, of which the Rev. Mr. Parish sent us seeds from Moulmein, a year ago, and whose offspring have continued in flower for six weeks in the palm-house shelves. The species, which

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was first described by Roxburgh in the Calcutta Gardens, is confined to the far-eastern districts of India; it was found in the Sylhet jungles by Dr. Thomson and myself in 1850, but our plants are from Mr. Parish's seeds.

Descr. A herbaceous plant, shrubby at the base and much branched, branches and infloresence viscid-pubescent. *Leaves* three to five inches long, lanceolate or oblong-lanceolate, long-acuminate, attenuated into the petiole, glabrous on both surfaces. *Panicles* terminal, much branched, branches erect, patent, with long, rigid, subulate bracts at the axils, terminated by three-flowered, narrow heads. *Calyx-lobes* subulate, shorter than the similar bracteoles. *Corolla* pale purple, with a long, slender tube, that is compressed, and slightly twisted at the apex; *upper lip* one inch long, oblong, three-toothed, pale purple-white, and speckled at the throat, lower very concave, much shorter, entire at the apex. *Anthers* straight.—*J. D. H.*

Fig. 1. Bracteoles, calyx, and pistils. 2. Stamens. 3. Ovary:—*all magnified.*

W. Fitch, del. et lith.

Vincent Brooks Imp.

TAB. 5567.

BATEMANNIA GRANDIFLORA.

Large-flowered Batemannia.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Flores ringentes. *Sepala* patentia, lateralia unguiculata, basi æqualia. *Petala* sepalis latiora, basi obliqua, pedi producto columnæ adnata. *Labellum* cum columnâ articulatum, trilobum, cucullatum. *Columna* semiteres, basi elongata, clinandrio marginato. *Anthera* parva, bilocularis, membranacea. *Pollinia* 2, postice biloba, glandulâ triangulari, caudiculâ nullâ. *Lindl. Bot. Reg. v.* 20. (1835) *p.* 1714.

BATEMANNIA *grandiflora;* pseudobulbis ovatis lucidis diphyllis, foliis valde coriaceis lanceolatis acutissimis racemis basilaribus 2–5-floris 3-plo longioribus, sepalis exterioribus liberis lanceolatis acutissimis patentibus æqualibus, internis paulo minoribus subcarnosis basi latis, labello brevissimè unguiculato, basi gynostemii productæ articulato subconcavo trilobo, lobo medio majori fimbriato, apice longe acuminato. Columna arcuata, margine membranaceo, alis truncatis denticulatis. Anthera operculiformis 2-locularis. Stigma concavum, rostello acuto, glandulâ ovali antice attenuatâ. Pollinia 4 per paria superposita compressa. *Rchb. fil. Bonpl.* 1856. *v.* 4. *p.* 323, *et in Walpers' Annales.*

GALEOTIA *grandiflora; Rich. et Gal. l. c. et tab.* 27.

The genus *Batemannia* was so named by Prof. Lindley, upwards of thirty years ago, after the writer of these remarks. The original species, *B. Colleyi*, came from Demerara, and a second, *B. Beaumonti*, from Bahia, and with these Prof. Reichenbach has now associated two species of the supposed genus *Galeottia* (*G. fimbriata* and *G. grandiflora*), which agree well with *Batemannia*, except that the number of pollen-masses is four instead of two. A fifth species has been added under the name of *B. meleagris* (the *Huntleya meleagris* of Lindley), which, though I quite think my friend is right in removing it from *Huntleya*, I am convinced he is wrong in placing under *Batemannia*, with which its habit—more like that of an Eastern Vanda—does not at all accord.

The present species is a very handsome plant, introduced many years since by Linden from New Granada, but still extremely rare. The figure was taken from specimens produced in the spring of 1865, in Mr. Rucker's far-famed collection. Being found at a lower elevation (4000 ft.) than the majority of its tribe in New Granada, it requires rather more warmth than most of what are now denominated "cool" Orchids.

DESCR. *Pseudobulbs* ovate, deeply furrowed, shining, two or three inches long, bearing two large, broadly-lanceolate, very sharp-pointed, leathery *leaves*. *Flower-scapes* much shorter than the leaves, three- to five-flowered. *Sepals* free, lanceolate, very sharp-pointed, fully expanded, all of the same size, olive striped with reddish-brown. *Petals* rather smaller, slightly fleshy, broad at the base. *Lip* with a short claw, jointed with the extended base of column, rather hollow, three-lobed, its middle lobe largest, fringed, and very acuminate, white with purple streaks, and orange-coloured calli at the base. *Column* arched, with membranous edges, and truncate, toothleted wings. *Anther* two-celled. *Stigma* hollow, with sharp beak and oval gland narrowing to a point in front. *Pollen-masses* four.—*J. B.*

Fig. 1. Pollen-masses:—*magnified.*

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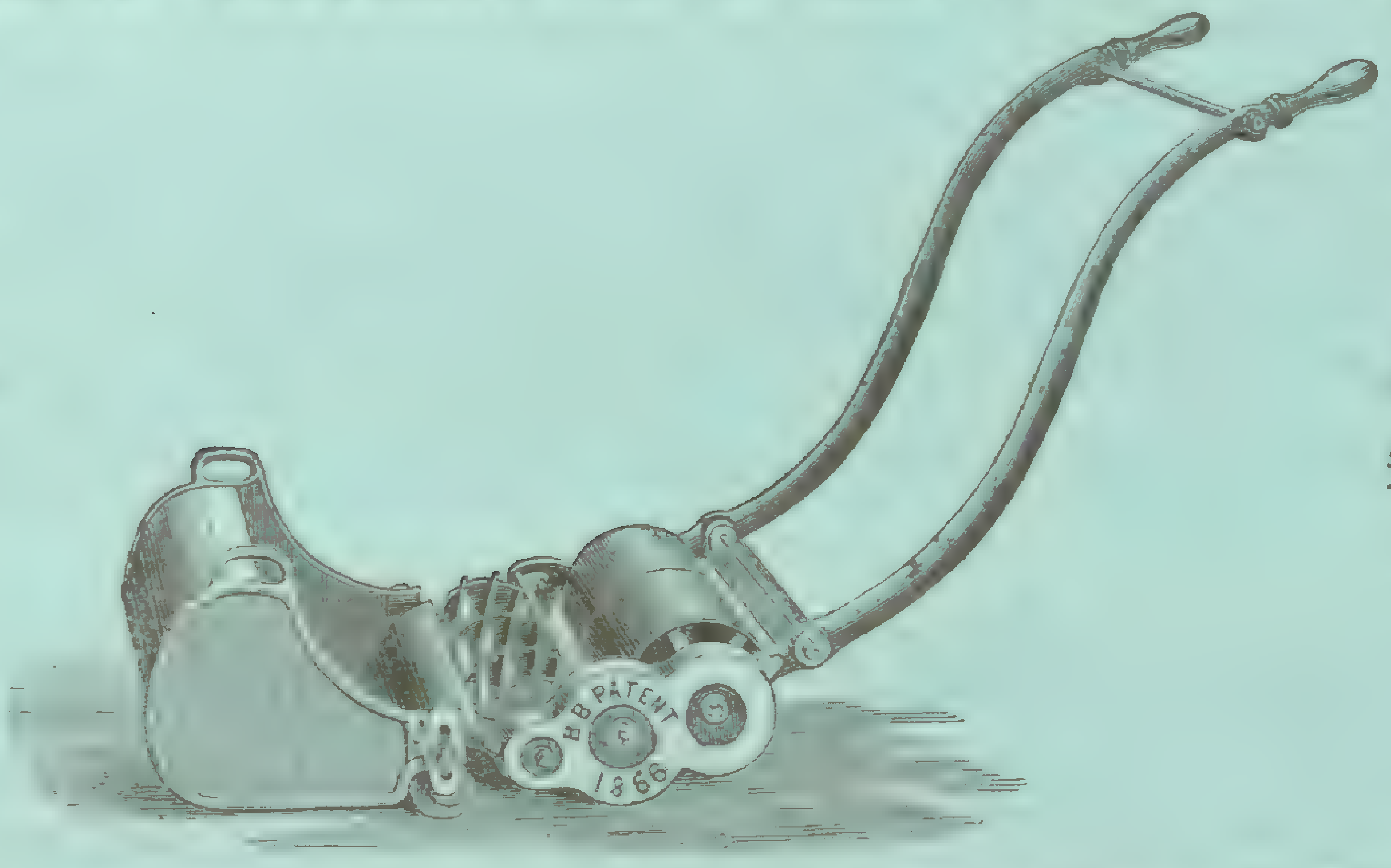

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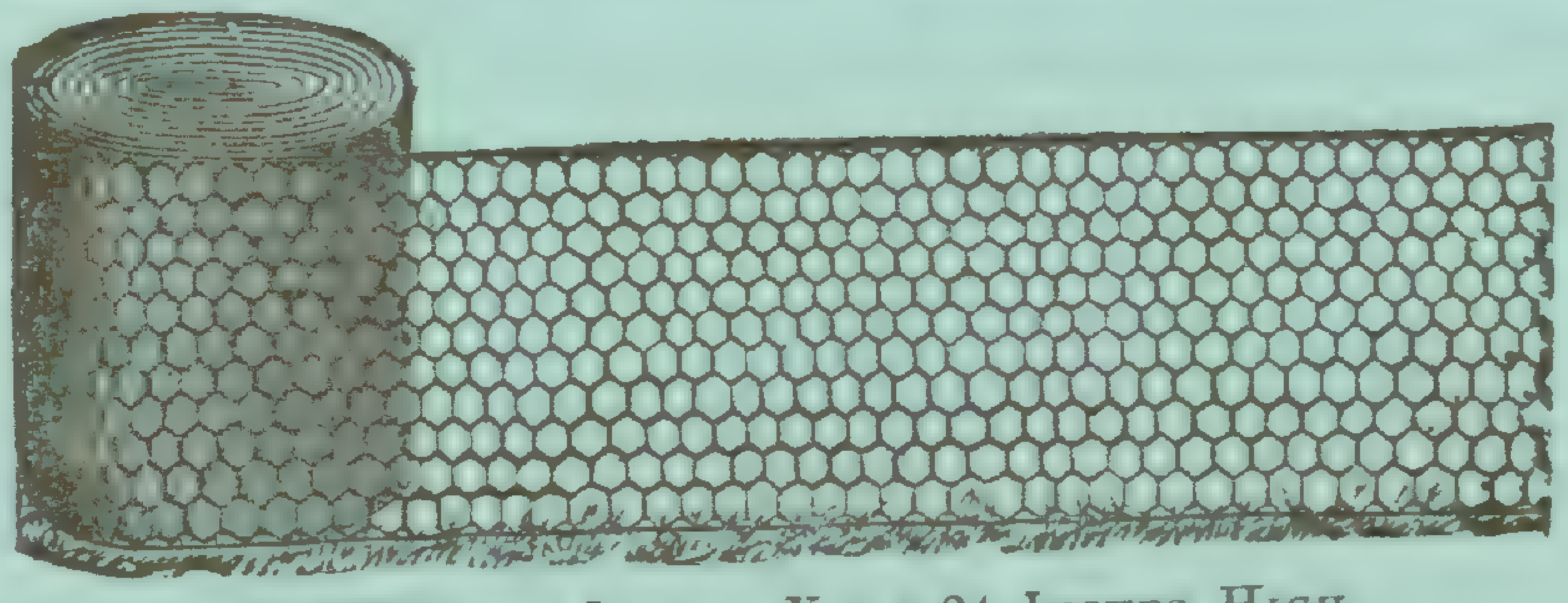

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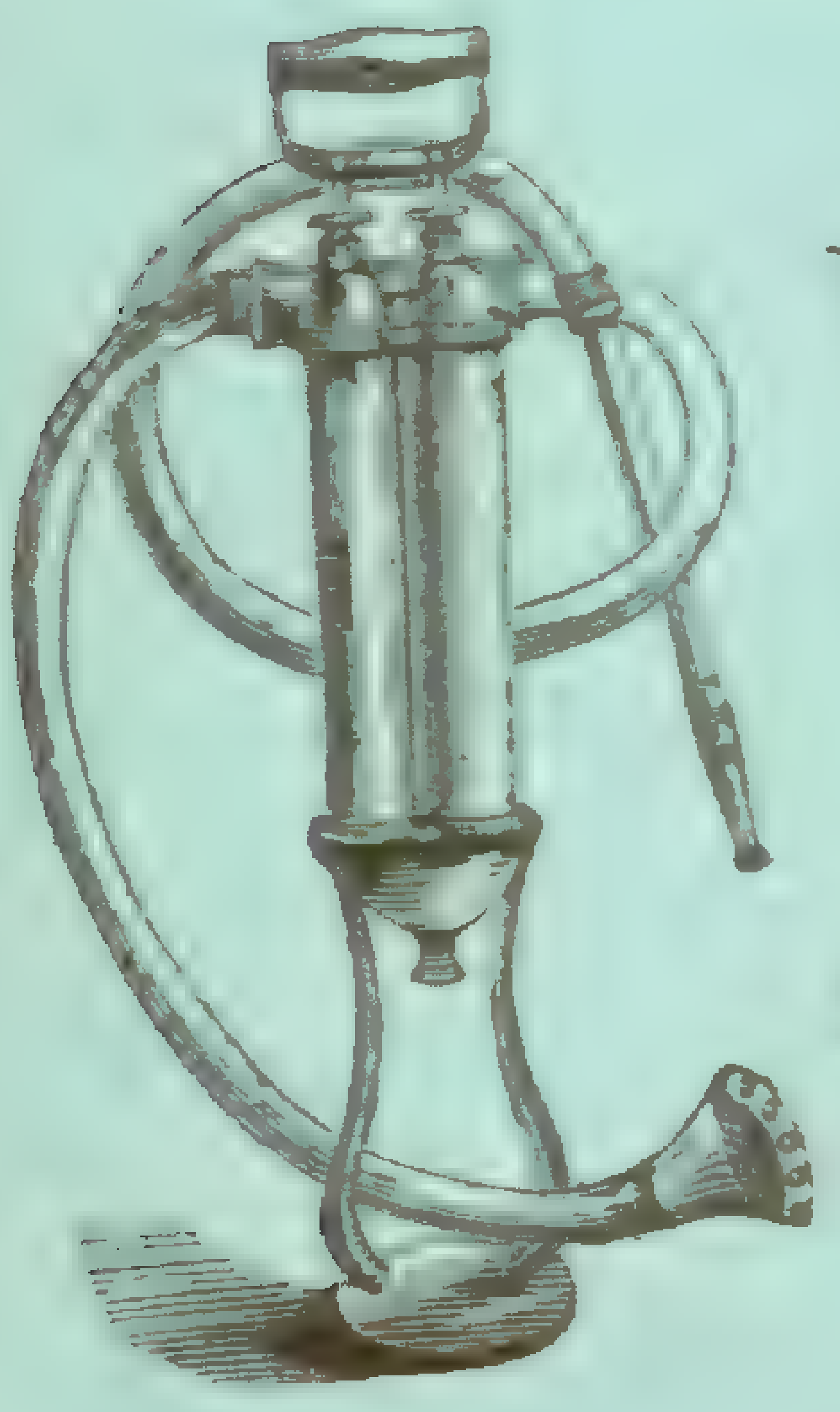

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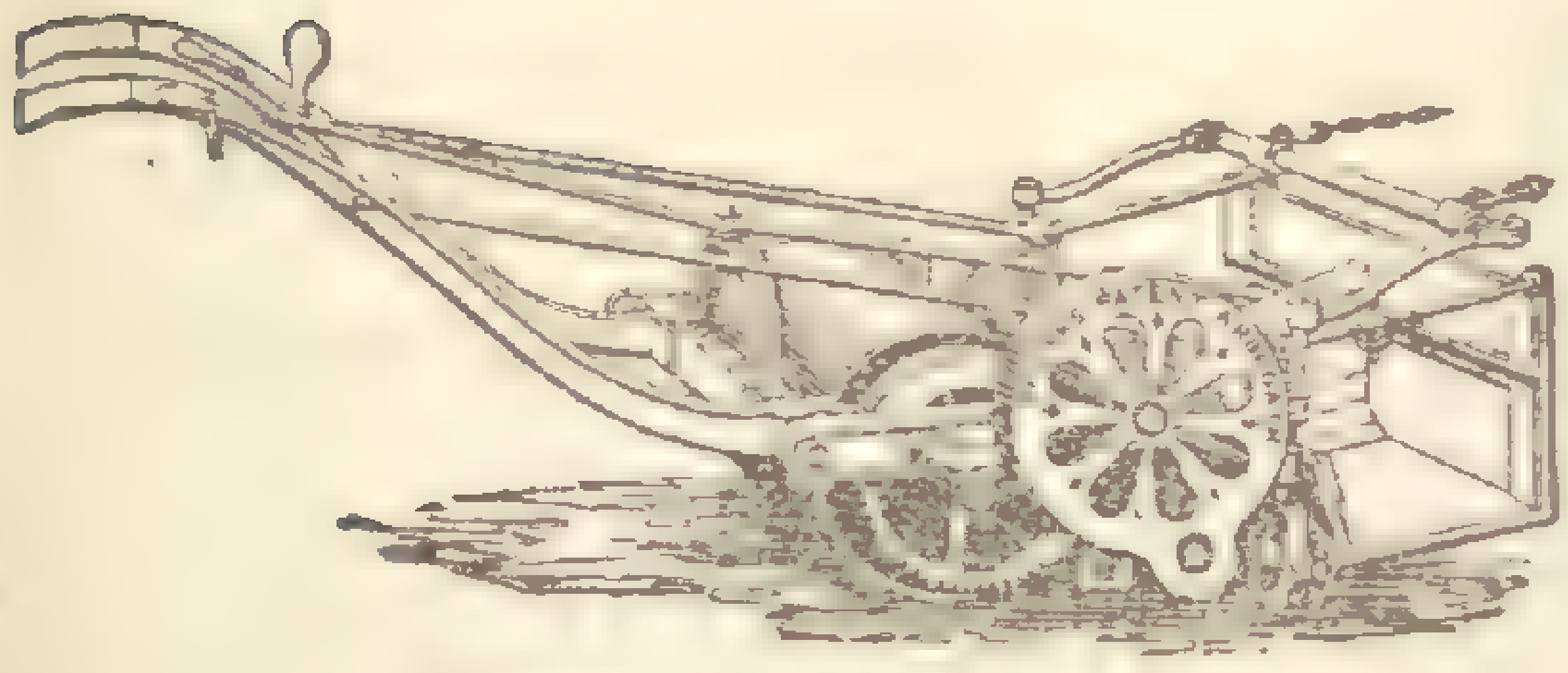

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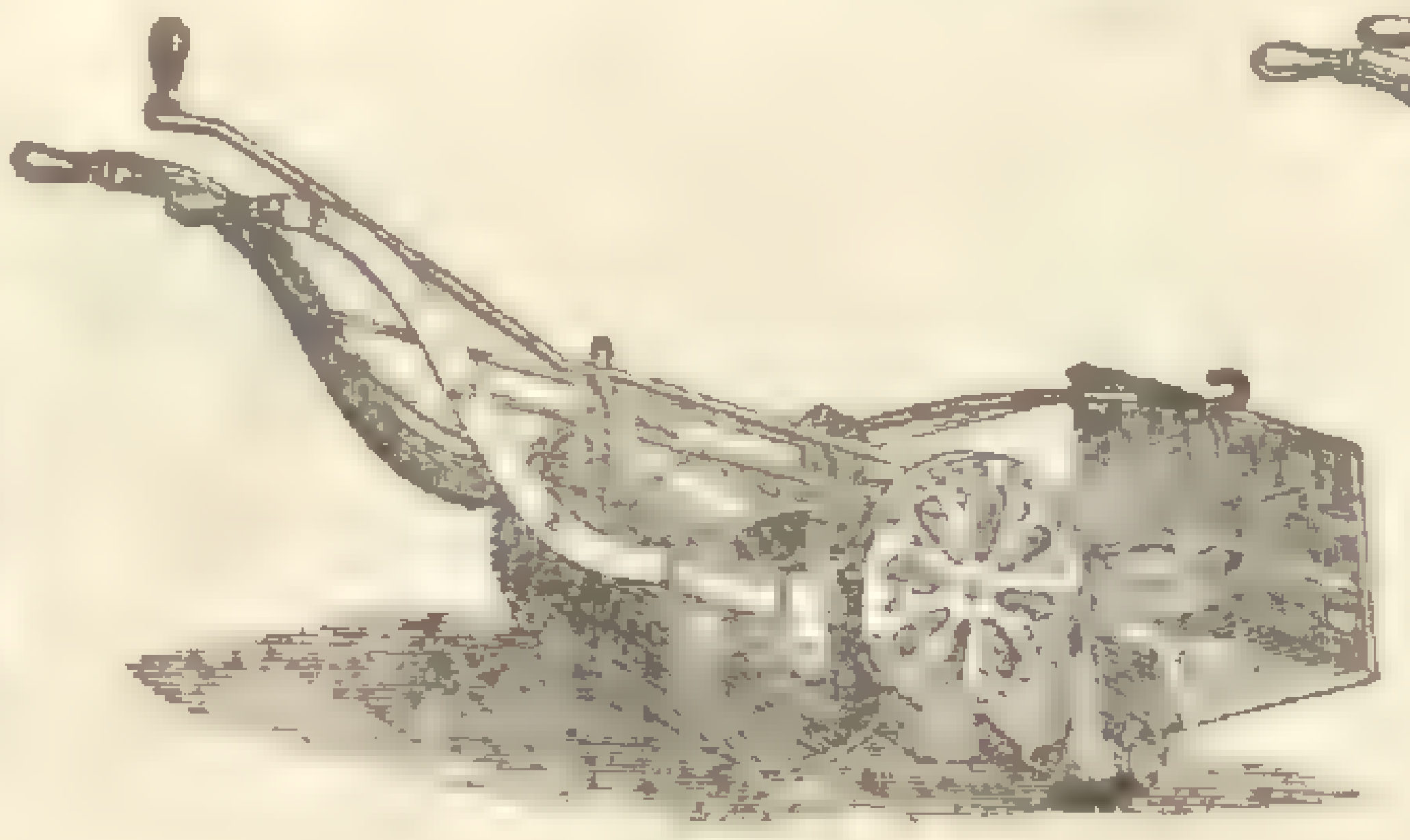

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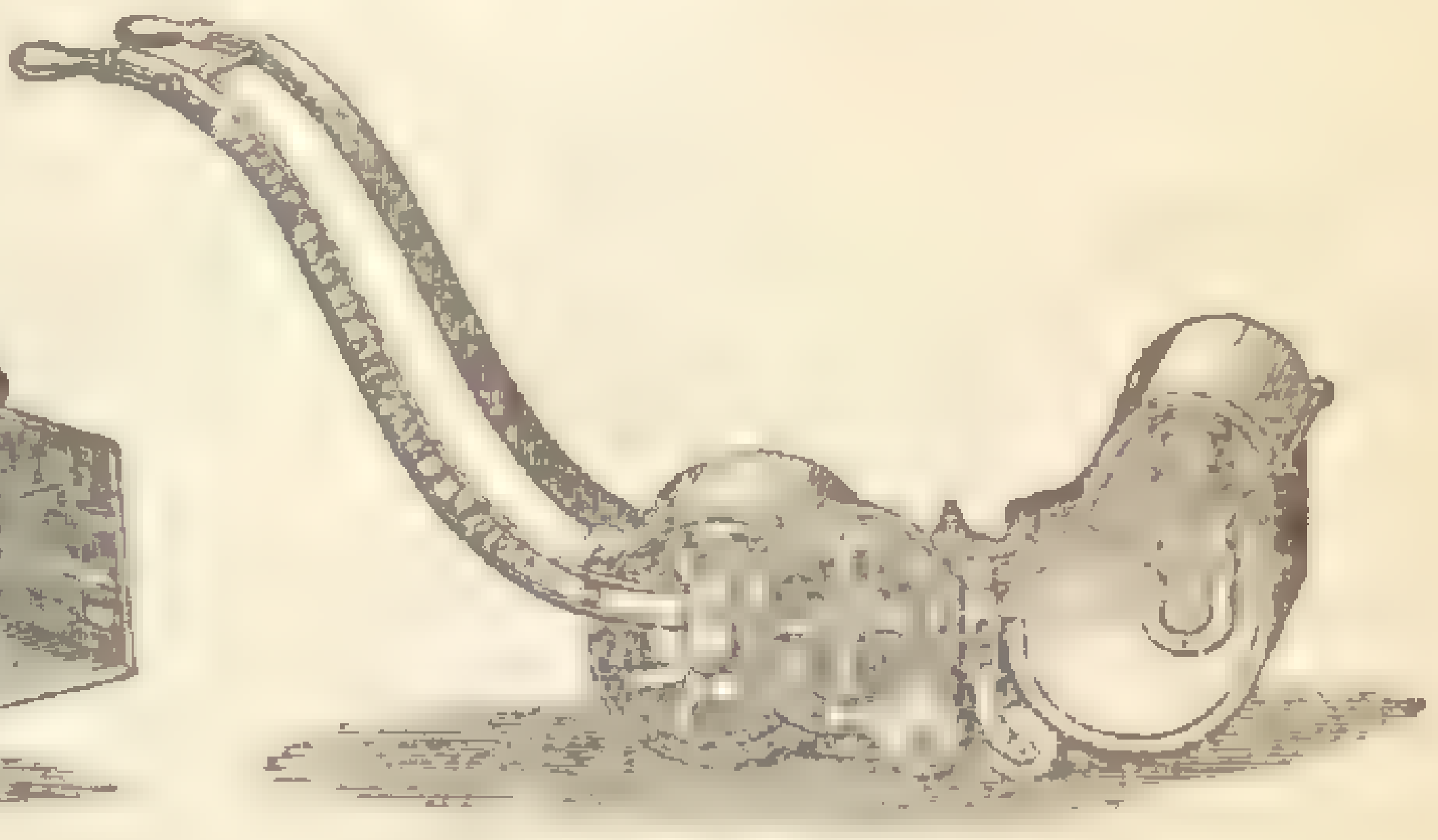

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22-inch Machine	8	7	6	*Do. by Two Men.*
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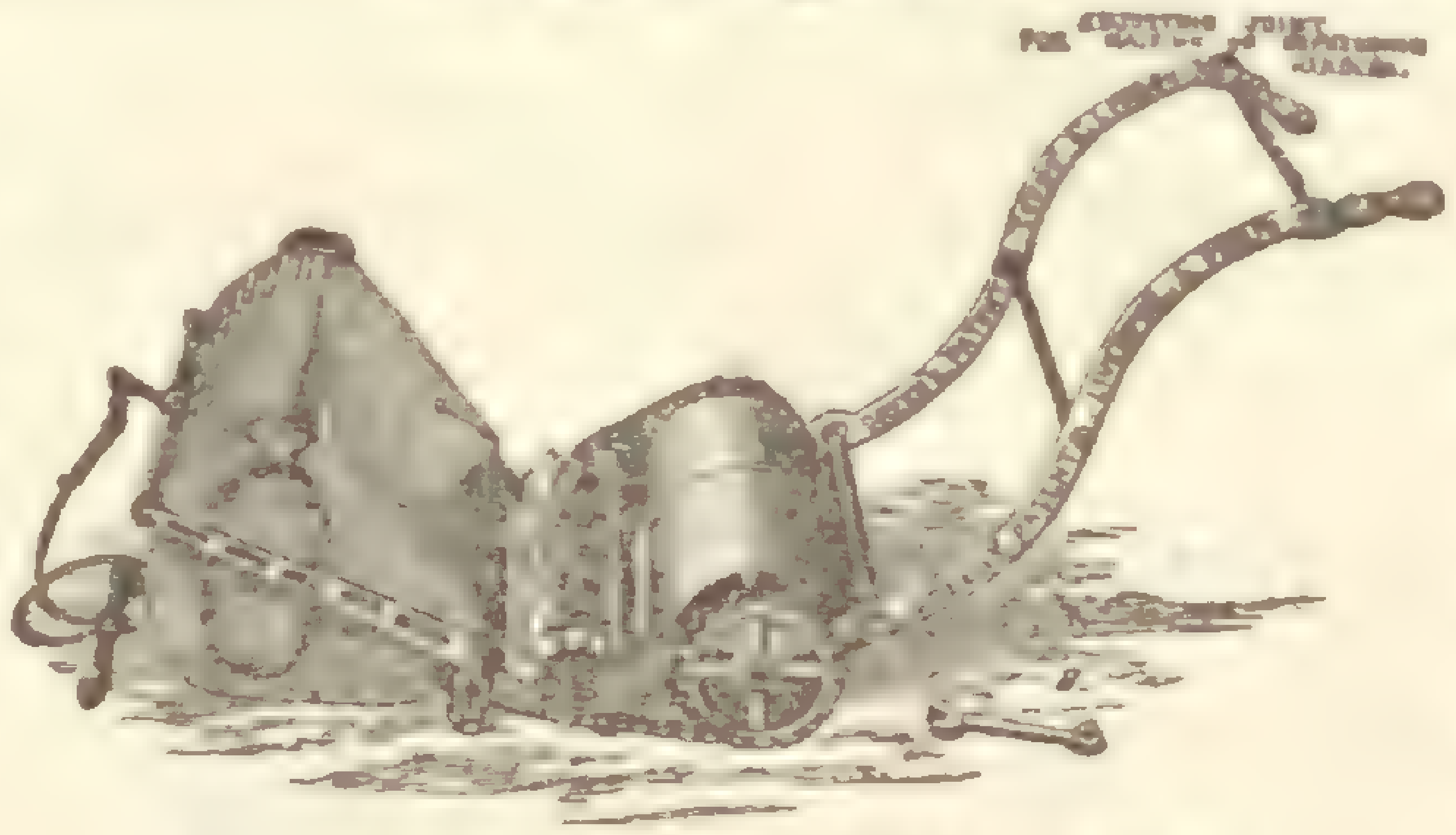

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Prices of Horse, Pony, and Donkey Machines, including patent self-delivery box; cross stay complete; sui for attaching to ordinary chaise-traces or gig harness.

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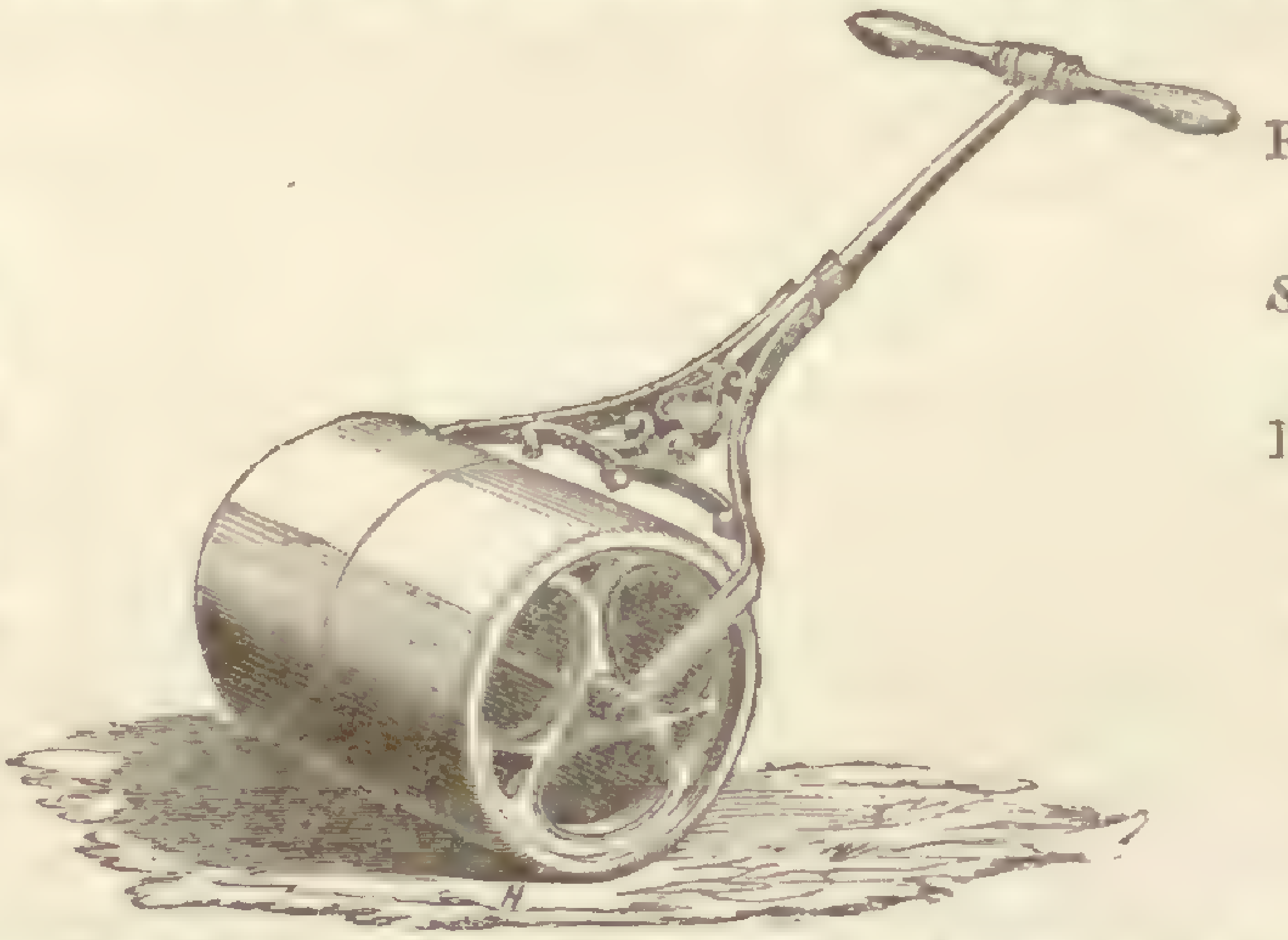

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The following description is from the Journal of the Royal Horticultural Society of London :—"One of the finest of the pink-flowered Bedding varieties yet seen, remarkable, not so much for size of flower as for size and completeness of truss; the leaves were marked with a pale zone; the flowers were rosy-pink; the base of the upper petals white, and the trusses are remarkably large and dense, having the valuable property of retaining their blossoms for a long time in the truss."

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Sealed packets, 2*s*. 6*d*. and 3*s*. 6*d*. each.

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Has great pleasure in offering, for the first time, the undermentioned **Splendid Plants.** Every care has been used in the selection of the several kinds, therefore he trusts they will give the highest satisfaction.

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The two following beautiful varieties will be found great acquisitions, and B. S. W. feels confident that they must take first rank as exhibition plants, PRINCESS ALEXANDRA being raised from the same parents as Elegantissima, which has proved to be one of the best. The present variety will be found superior in quality, with much larger flowers, of a substance never before met with—the most important feature for prolonging the flowering season. PRINCESS HELENA is recommended for its general usefulness, being a free bloomer and quite distinct in habit.

PRINCESS ALEXANDRA.—A beautiful form of Elegantissima, with flowers 3½ inches across; petals round and smooth, of great substance, slightly striped with deep crimson; a profuse bloomer. 31*s.* 6*d.*

PRINCESS HELENA.—Deep rosy pink, upper petals spotted with lake. The transparency of the flowers causes it to be distinct from all other kinds; habit good and free. 21*s.*

RHODODENDRONS.

These two elegant varieties are the Seedling productions of Mr. Bousie, late of Stoke Park, and were exhibited by him a few seasons since at the Royal Horticultural Meetings, and received Certificates of Merit as valuable additions for greenhouse decoration, being of free-flowering habit, a feature much wanted in a greenhouse Rhododendron.

DENISONII.—A Seedling from Dalhousianum, crossed with Edgeworthii and Gibsonii; a very fine variety, with splendid habit, well furnished with clean-looking flattish elliptic leaves and large campanulated flowers, pure white, with a lemon stain towards the base, very elegant (to be figured in the 'Floral Magazine' for May). 21*s.*

McNABBII.—From ciliatum, crossed with Edgeworthii; a very handsome plant, dwarfish in habit, with smooth elliptic leaves, and beautiful large blush-white flowers. 21*s.*

ACHIMENES.

Six beautiful varieties raised by Mr. Parsons, of Welwyn, and far in advance of any yet sent out. PINK PERFECTION the same size as Mauve Queen, and equal in substance, while GRANDIS gives the deepest violet shade; all the others will be found equally distinct in their separate colours. Received Certificates of Merit from the Floral Committee.

ADVANCE.—Flowers deep reddish purple, with a light spotted eye, shaded towards the margin, quite distinct. 7*s.* 6*d.*

ARGUS.—Colour rich plum, large deep orange eye, spotted with carmine, upper lobes of the flowers beautifully rayed towards the margin. 7*s.* 6*d.*

AURORA.—Flowers 2 inches across; colour rich heavy scarlet, with light yellow eye, very effective. 7*s.* 6*d.*

GRANDIS.—Flowers deep violet colour, with a deep orange eye, finely spotted and shaded with carmine. 7*s.* 6*d.*

PINK PERFECTION.—Flowers very large, colour magenta rose; the upper part of the eye rich carmine, the under lobes beautifully rayed with violet, very fine. 7*s.* 6*d.*

STELLA.—Flowers 2½ inches across, clear magenta, orange eye, spotted with carmine, nicely serrated, distinct and beautiful. 7*s.* 6*d.*

The above set for 40*s.*

SWAINSONIA MAGNIFICA.

Figured in the 'Floral Magazine.'

A free-growing and free-flowering greenhouse climber; native of Australia; habit and character partakes of both the Clianthus and Swainsonia; while it has the robust and graceful-growing habit of the former, it produces more prominently the long pendent racemes of delicate bright coloured pink flowers of the latter, with a pure white centre in the upper petal or lobe. It is well adapted for a cool greenhouse, treated as a pot plant or planted out in a border for pillars or trellis-work. 10*s.* 6*d.*

THUNBERGIA FRAGRANS.

B. S. W. believes this to be the most useful plant he has ever had the pleasure of offering, the whole character being quite distinct to any other Thunbergia, and whether grown as a pot plant or planted in the border for covering pillars and trellis-work, it will be invaluable, being free in growth, with ample foliage of a dark green, with great substance. It continues flowering throughout the year, but its principal period is during the winter months, a time when white flowers are scarce. Although grown in a warm stove, it has never shown the least sign of red spider, a most important feature in this class of plants. 10*s.* 6*d.*

PELARGONIUMS, BEDDING.

The following six Zonale Geraniums were raised by Shirley Hibberd, Esq., the eminent Horticulturist. It is well known that this gentleman has for some years given his close attention to this class of Bedding Plants, planting in his own experimental garden every kind that has been raised, and carefully testing or proving their worth as regards habit and novelty by comparison, etc. He has already raised several valuable kinds, but prior to this season none have been sent out under his name. B. S. W. has prevailed upon Mr. Hibberd to allow him to use his name. This will convince all that they are each varieties of more than ordinary merit, and real novelties.

ANDREW MARVEL.—Leaves bright green, with broad brownish zone flowers, large, and of remarkable substance and smoothness; colour vermilion-red; a fine variety. 7*s.* 6*d.*

EVANGELINE.—Leaves rich green, with dark zone; smooth circular flowers, colour French white, shading to delicate rose blush, large globular trusses, very distinct and beautiful. 7*s.* 6*d.*

H. W. LONGFELLOW.—Flowers finely formed, colour deep salmon flesh with red centre, with trusses large and globular; leaves dark green, with brown zone; a very fine variety. 7*s.* 6*d.*

KATE ANDERSON.—Flowers average size and form, trusses globular, colour the most brilliant shade of true scarlet; blooming profusely, likely to prove the most effective scarlet known; leaves deeply zoned. 7*s.* 6*d.*

MAGNA CHARTA.—Flowers very large and smooth, top petals the same size as the bottom ones, colour deep red; leaves pale green, with obscure zone. 7*s.* 6*d.*

The above set for 40*s.*

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Contents of No. 256, *April* 1866.

ERICINELLA MANNII.
POLYCHILOS CORNU-CERVI.
TACSONIA VAN-VOLXEMII.
MILTONIA ANCEPS.
MUSSÆNDA LUTEOLA.

FLORAL MAGAZINE; containing Figures and Descriptions of the newest varieties of Popular Garden Flowers. By the Rev. H. Honywood Dombrain. Monthly, with 4 coloured Plates by Andrews, 2*s.* 6*d.*

Contents of No. 72, *April* 1866.

EPIPHYLLUM TRUNCATUM ELEGANS.
PELARGONIUM PELTATUM ELEGANS.
MARANTA ILLUSTRIS.
PRIMULA, KERMESINA PLENA, AND QUEEN OF ENGLAND.

FLORA VITIENSIS; a Description of the Plants of the Viti or Fiji Islands, with an Account of their History, Uses, and Properties. By Dr. Berthold Seemann, F.L.S. Royal 4to, Parts I. to III., each, 10 Coloured Plates, 15*s.* To be completed in Ten Parts.

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TAB. 5568.

PEPEROMIA MARMORATA.

Marble-leaved Peperomia.

Nat. Ord. PIPERACEÆ.—DIANDRIA MONOGYNIA.

Gen. Char. Amentum floribus dense v. remote tectum. *Bracteæ* peltatæ. *Stamina* 2, lateralia, filamentis teretibus v. subulatis. *Antheræ* 2-loculares, loculis oppositis nunc effœtis sursum confluentibus hinc subunilocularibus. *Ovarium* sessile, rectum v. obliquum, stigmate sessili deciduo penicillato v. fimbriato. *Bacca* sessilis, fere exsucca, pericarpio tenui. *Semen* conforme, testa membranacea v. coriacea.—Herbæ *carnosæ, ramosæ.* Folia *opposita, alterna v. verticillata, exstipulatis.* Amenta *axillaria terminalia* v. *oppositifolia.*

PEPEROMIA *marmorata;* herbacea, robusta, glaberrima, caule tereti ramoso, foliis oppositis confertis carnoso-coriaceis ovatis obtusis basi profunde cordato-2-lobis lobis incumbentibus integerrimis supra fusco-viridibus albo-marmoratis, subtus pallidioribus, 5-nerviis, amentis subterminalibus 4–6 poll. longis gracilibus pedunculatis teretibus, floribus spiraliter dispositis, bracteis peltatis, apice dilatato orbiculari, pedicello crasso obconico, ovario obovoideo obliquo glanduloso, stigmate subterminali sessili disciformi fimbriato.

The genus *Peperomia*, though generally consigned to the "Botanic Garden" by horticulturists, contains a considerable number of species extremely well worth cultivation, and, amongst others, the subject of the Plate. For, unlike most other variegated-leaved favourites, this retains more or less of its beauty throughout the year. It is a native of South Brazil, where it was discovered by Mr. Weir, collector for the Horticultural Society. It was received at Kew, first from Mr. Veitch, and afterwards from Mr. Wilson Saunders, F.R.S.,—in both cases with the name of *P. arifolia* (a very different plant, with peltate leaves). I find it nowhere described.

DESCR. A robust, branching, short, suberect plant, glabrous throughout, surface papillose with minute, translucent cells. *Stems* terete, branched, almost as thick as the little finger. *Leaves* petioled, opposite, three to five inches long, ovate-cordate, deeply two-lobed at the base, the lobes rounded and overlapping, quite entire, succulent, five-nerved, upper surface opaque, dull green, marbled with white, under pale green. *Spikes* single or two to three together, erect, slender, four to six inches long, on stout, erect peduncles, about one-sixth of an inch diameter. *Flowers* in rather close spirals, but not crowded. *Bracts* peltate, summit orbicular, pedicel clavate. *Stamens* short; *anther* two-celled. *Ovary* papillose, broadly obovoid, oblique; *stigma* nearly terminal, discoid, with fimbriate edges.—*J. D. H.*

Fig. 1. Portion of amentum, with flower. 2 and 3. Side and front view of scale, stamens, and ovary:—*all magnified.*

5419

Vincent Brooks Imp.

TAB. 5569.

ERICINELLA MANNII.

Cameroons Mountain Heath.

Nat. Ord. ERICEÆ.—TETRANDRIA MONOGYNIA.

Gen. Char. Calyx 4-partitus, lacinia infima majore. *Corolla* campanulata, limbo 4-fido suberecto. *Stamina* 4, rarius 5, libera v. subconnata. *Stigma* peltatum. *Ovarium* 3–6-loculare, loculis pluri-ovulatis. *Capsula* 3–6-locularis, 3–6-valvis.—Fruticuli *tenues, ericoidei*, Africæ tropicæ *et* australis *et* Madagascariæ *incolæ*. Folia 3–4-*natim verticillata, anguste linearia*. Flores *terminales, pedicellati, parvi*. Bracteæ 0.

ERICINELLA *Mannii*; frutex ramosissimus, 5–12-pedalis, ramis ramulisque pubescenti-tomentosis puberulisve, foliis 4-nis patulis v. appressis glabris nitidis, pedicellis folia superantibus, sepalis minoribus corolla dimidio brevioribus, antheris muticis inclusis, stylo breviter exserto.

ERICINELLA Mannii. *Hook. f. in Journ. Linn. Soc.* vi. 16 *et* vii. 205.

Till the expedition of Gustav Mann, late collector for the Royal Gardens of Kew, to the West Coast of Africa, the flora of the tropical mountains of that continent was totally unknown; now, thanks to his intrepidity and prudence, we have excellent dried collections and many living plants from the loftiest regions of that district hitherto visited by white men,—viz. Fernando Po and the Cameroons Mountains. From this curious country *Helichrysum Mannii* has already been figured (*ante*, Tab. 5431), and other curious things will hereafter appear. Meanwhile we here figure a type of vegetation equally familiar in Europe and South Africa, but which had not previously been known to inhabit the intermediate region. M. Mann found it at an elevation of 10,000 feet on Fernando Po, and between 4000 and 11,000 feet on the Cameroons Mountains, where it forms a shrub, sometimes twelve feet high. The other species of the genus, which is very closely allied to *Erica* itself, are found, one in Madagas-

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car and another in South Africa. Our specimens were raised from seed, and flowered in the Heath-house in July, 1863.

Descr. A slender, bushy, erect shrub, four to ten feet high, with close-set, fastigiate, pubescent or tomentose branchlets. *Leaves* quaternate, close-set, whorled in fours, one-eighth of an inch long, linear, with revolute margins, glabrous. *Flowers* numerous, three or four together at the tips of all the branchlets, on short, curved pedicels, nearly globose, one-tenth of an inch long, dull-red. *Calyx-lobes* unequal, three of them ovate-oblong, half as long as the corolla, fourth linear-oblong, as long as the corolla, all ciliate at the base. *Corolla* subglobose, with four short, obtuse, ciliate lobes. *Stamens* included. *Anthers* four or five, broad, obcordate-oblong, slightly cohering. *Ovary* pubescent, six-celled. *Style* exserted; *stigma* broad, dilated, cup-shaped, dark-red.—*J. D. H.*

Fig. 1. Branch and leaves. 2. Leaf. 3. Apex of branch with flowers 4. Flower. 5 and 6. Stamens. 7. Germen and transverse section of ovary:—*all magnified.*

Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5570.

POLYCHILOS CORNU-CERVI.

Stag's-horn Polychilos.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. *Sepala* explanata, carnosa, angusta, libera; lateralibus subfalcatis, leviter incurvis. *Petala* conformia, minora. *Labellum* posticum, unguiculatum, in disco foveatum, cum columnâ continuum, carnosum, complicatum, tripartitum, laciniis lateralibus runcinatis terminali lunato apiculato. *Appendix* circa foveam membranaceus, semicyathiformis, 5-aristatus, dentibus duobus auctus: altero minore a latere columnæ, altero antico cultrato. *Columna* erecta, elongata, semiteres, basi bituberculata, clinandrio proclivi, rostello elongato decurvo. *Stigma* oblongum, excavatum. *Pollina* 2, cereacea, postice fissa, caudiculâ elongatâ, obovatâ, glandulâ ovali. *Lindl. Fol. Orch.*

POLYCHILOS *cornu-cervi;* foliis distichis coriaceis cuneatis oblongis, pedunculis lateralibus erectis sursum clavatis multifloris subæqualibus, rachi alatâ.

POLYCHILOS cornu-cervi. *Kuhl van Hass. Orch. tab.* 1.

PHALÆNOPSIS cornu-cervi. *Rchb. fil. Xen. Orch.*

Although long since discovered in Moulmein by Lobb, this curious plant had never reached England in a living state before the year 1864, when, through the kindness of the Rev. C. S. P. Parish, a few specimens of it were safely transmitted to Messrs. Low, some of which have already flowered.

Dr. Lindley had doubts as to whether *Polychilos* was, as a genus, really distinct from *Phalænopsis*, while Professor Reichenbach is decidedly of opinion that the two genera ought to be combined. Certainly the two species lately figured in this work (*Phalænopsis Luddemanniana* and *P. Sumatrana*) and which are nearly intermediate between the older kinds of *Phalænopsis* and the present *Polychilos*, go far to strengthen the views of the German Professor, but on the whole I have thought it better to retain for the present Dr. Lindley's name, as so much fresh light is now being thrown

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upon the subject by the constant discovery of new species, and we shall therefore ere long be in a far better position to deal with the question in all its bearings.

P. cornu-cervi flowers freely in the summer months, and is readily grown among other Indian Orchids. Not more than four or five flowers on the same scape are ever open at the same time.

DESCR. An *epiphyte* with the habit of *Phalænopsis*. *Leaves* nearly a span long, distichous, leathery, cuneate, oblong, about equal to the *peduncles*, which are nearly erect, clavate, and forming a broad *rachis*, on which from six to a dozen or more flowers open in succession. *Sepals* expanded, fleshy, narrow, acute, the lateral ones partially falcate. *Petals* similar to the sepals but rather smaller, of a yellowish-green barred with reddish-brown. *Lip* whitish, unguiculate, hollowed on the disk, continuous with the column, fleshy, folded inwards, tripartite, the lateral divisions being inclined from the apex and the centre one crescent-shaped and apiculate. By the hollow of the disk is a somewhat cup-shaped membranaceous appendage, usually furnished with five aristæ (awns) and two teeth, one in front the other in the rear. *Column* erect, elongated, half-rounded, with two tubercles at its base; the clinandrium lying low and flat, with an extended decurved beak.—*J. B.*

Fig. 1. Lip and column (*magnified*) seen in front. 2. Ditto, ditto, seen sideways.

TAB. 5571.

TACSONIA VAN-VOLXEMII.

Van Volxem's Passion-flower.

Nat. Ord. PASSIFLOREÆ.—PENTANDRIA TRIGYNIA.

Gen. Char. *Calycis* tubus elongatus, cylindricus; lobi 5, lineari-oblongi v. lanceolati, colorati. *Petala* 5 v. 0, calycis lobis concolora et uniformia. *Corona* faucis duplex v. simplex, brevis v. elongatus. *Stamina* 5, filamentis cum gynophoro longe connatis, apice liberis; antheræ versatiles, lineari-oblongæ. *Ovarium* longe stipitatum, 1-loculare; styli 3, stigmatibus capitatis; ovula placentis 3 affixa, puplurima. *Bacca* intus pulposa, polysperma. *Semina* compressa, arillata, testa scrobiculata.—Frutices *scandentes, cirrhiferi.* Folia *alterna, lobata.* Pedunculi *sæpius solitarii, 1-flori, 3-bracteati.* Flores *sæpissime speciosi.*

TACSONIA *Van-Volxemii;* ramis gracilibus foliisque subtus puberulis, foliis breviter petiolatis cordatis profunde 3-lobis, lobis anguste lanceolatis, petiolis glandulosis, acuminatis serrulatis, cirrhis elongatis, pedunculis solitariis longissimis capillaribus infra florem 3-bracteatis, bracteis parvis oblongis serrulatis, floribus amplis speciosis pendulis, calycis tubo basi globoso, lobis anguste lineari-oblongis dorso infra apicem apiculatis intus kermesinis, petalis consimilibus obtusis ima basi plaga pallida notatis, corona brevissima simplici denticulata violacea.

TACSONIA (§ ? PSILANTHUS) Van-Volxemii. *Funk, in Journ. of Hort. v. 5. Feb.* 1861. *Lemaire, Jard. Fleuriste. t.* 381.

One of the most striking and beautiful plants hitherto introduced into Europe, easy of cultivation, and continuing a considerable time in flower. It promises to rival the *Lapageria*, and even to eclipse it. The genus to which it belongs inhabits South America, principally the valleys of the Andes; and it is stated in Lemaire's 'Jardin Fleuriste' that this species is a native of the temperate region of the province of Antioquia, in New Granada, where it is cultivated by the natives. It was introduced into Belgium, in 1858, by a zealous amateur, M. Van Volxem, who found it in a garden at Bogotá; and I have native specimens collected by Goudot in

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the Quindiu Andes, in the same country. For the specimen here figured, as well as for a fine young plant presented to the Royal Gardens, I am indebted to Messrs. Lucombe and Price, of Exeter. It succeeds well in a warm greenhouse, and according to its discoverer it resists a temperature of the freezing-point in its own country.

DESCR. *Stems* slender, slightly pubescent, as are the under surface of the leaves, petals, and peduncles. *Leaves* three to five inches long, cordate at the base, deeply three-lobed; *lobes* membranous, lanceolate, acuminate, serrulate. *Cirrhi* slender. *Peduncles* exceedingly long and slender, almost capillary, ten to twenty inches long, one-flowered, tribracteate. *Bracts* placed a little below the flower, small, oblong, serrulate. *Flowers* five to seven inches in diameter, bright-red. *Calyx-tube* green, globose at the base, three-quarters of an inch long; *lobes* oblong or oblong-lanceolate, keeled; *keel* and *base* externally green. *Petals* similar to the calyx-lobes, yellowish at the very base. *Corona* inconspicuous, toothed, violet. *Gynophore* two inches long.—*J. D. H.*

Fig. 1. Portion of corona:—*magnified.*

5572.

W. Fitch, del. et lith

Vincent Brooks, Imp.

TAB. 5572.

MILTONIA ANCEPS.

Two-edged-stemmed Miltonia.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra,* TAB. 4109.)

MILTONIA *anceps;* pseudobulbis compressis versus apicem attenuatis, foliis binis oblongis, racemo ancipiti unifloro foliis longiore articulato, sepalis petalisque lanceolato-oblongis patenti-recurvis, labello rhomboideo-lyrato apice recurvo basi pubescente bilamellato dente intermedio breviore adjecto, clinandrio circulari carnoso dentato. *Lindl. Fol. Orch.*

MILTONIA anceps. *Rchb. Xen. Orch. tab.* xxi.

ODONTOGLOSSUM anceps. *Klotzsch, in Allgem. Gart. Aug.* 9, 1851.

This singular *Miltonia* was originally introduced from Brazil, by the Messrs. Loddiges with whom it flowered, but no figure of it has appeared in any English work and the plant itself seems to have disappeared for many years from our gardens. Fortunately a few plants of it were met with by Mr. Blunt, and sent to his employers Messrs. H. Low & Co. of Clapton, and from one of these, which flowered at Knypersley in the spring of 1865, Mr. Fitch obtained his drawing.

The species is cultivated as easily and requires the same treatment as the other *Miltonias.*

DESCR. *Pseudo-bulbs* two-leaved, two or three inches long, adjoining each other, of the pale-yellowish tint usual in the genus. *Leaves* two on each pseudo-bulb, narrow-oblong, tapering at their extremity, shorter than the *flower-scapes,* which are two-edged and partially concealed by long sheathing pointed bracts. *Flowers* one on each scape, two inches in diameter. *Sepals* and *petals* oblong-lanceolate, spreading, recurved, olive-coloured. *Lip* white with a few purple streaks and dots, somewhat lyre-shaped, slightly recurved at the apex, same length as the petals, along its pubescent base are two lamellæ, with a third (sometimes in the form of a tooth) raised between them. *Clinandrium* round, and toothed. —*J. B.*

APRIL 1ST, 1866.

W. Fitch del. et lith.

Vincent Brooks, Imp.

Tab. 5573.

MUSSÆNDA luteola.

Captain Grant's Mussænda.

Nat. Ord. Rubiaceæ.—Pentandria Monogynia.

Gen. Char. Calycis tubus oblongus v. turbinatus; lobi 5, decidui, uno sæpissime in folium amplum coloratum petiolatum producto. *Corolla* infundibuliformis, tubo elongato, fauce villosa, limbo 5-partito. *Antheræ* 5, sessiles, inclusæ, lineares. *Ovarium* 2-loculare; stylus gracilis, stigmatibus linearibus; ovula ∞, placentis stipitatis revoluto-2-lobis affixa. *Bacca* apice cicatricata, polysperma. *Semina* parva.—Frutices, arbores *et* suffrutices *tropici.* Folia *petiolata, ovata;* stipulæ 2, *liberæ v. connatæ.* Flores *in corymbos terminales dispositi, bracteolati, sæpissime albi v. flavi.*

Mussænda *luteola;* suffrutex gracilis, ramis striatis teretibus et foliis subtus inflorescentia pubescenti-tomentosis, foliis 1–2 poll. longis breviter petiolatis ovato-oblongis lanceolatisve acuminatis membranaceis, stipulis parvis ovato-subulatis, corymbis paucifloris, calycis lobis setaceis uno foliaceo petiolato oblongo albo v. pallide flavo, corollæ tubo ½–1 poll. longo, lobis late ovatis longe abrupte acuminatis luteolis, bacca parva sicca.

Mussænda luteola. *Delil. in Caill. Pl. Afriq.* 65. *t.* 1. *f.* 1. *DC. Prodr. v.* 4. *p.* 371.

A very pretty plant and one of unusual interest, as being first introduced into Europe by Captain Grant, the companion of the lamented Speke in his daring exploration of the headwaters of the Nile. During that memorable voyage Captain Grant made a very valuable collection of plants, that have been published by Dr. Thomson in the appendix to Speke's Narrative, and he further brought to Kew the seeds from which the specimen here figured was produced, and which flowered in our stove in August, 1863. It was found by Cailliaud, during his voyage to Meroe, on the Nile, in about lat. 10° N. Captain Grant collected it in the rocky ravines of Gani and Madi, and it was again found in the White Nile country, during Consul Petherick's expedition.

Delile refers the *M. lanceolata*, Spreng. (*Ophiorhiza lanceolata*, Forskahl, *Manettia lanceolata*, Vahl, *Mussænda Ægyp-*

tacea, Lamk.), of Arabia, to this, but as it does not at all agree with Forskahl's description, I refrain from quoting these synonyms.

DESCR. A small, erect, slender, twiggy shrub, pubescent on the branchlets, leaves below, and inflorescence. *Leaves* one and a half to two inches long, shortly petioled, ovate- or oblong-lanceolate, acuminate, membranous. *Stipules* ovate-subulate. *Corymbs* few-flowered; *flowers* in threes, usually shortly pedicelled. *Calyx-teeth* filiform or subulate, except one, that forms a white or yellowish, oblong or ovate-cordate, membranous leaf, half to three-quarters of an inch long. *Calyx-tube* an inch long and under; *lobes* broadly ovate, with long acuminate points, pale-yellow.—*J. D. H.*

Fig. 1. Flower with foliaceous calyx-lobe removed. 2. Germen. 3. Interior of throat of corolla, with anthers:—*all magnified.*

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HANDBOOK OF THE NEW ZEALAND FLORA; a Systematic Description of the Native Plants of New Zealand, and the Chatham, Kermadec's, Lord Auckland's, Campbell's, and Macquarrie's Islands. By Dr. J. D. Hooker, F.R.S. Demy 8vo. Part I., 475 pp., 16*s*. Published under the auspices of the Government of that colony.

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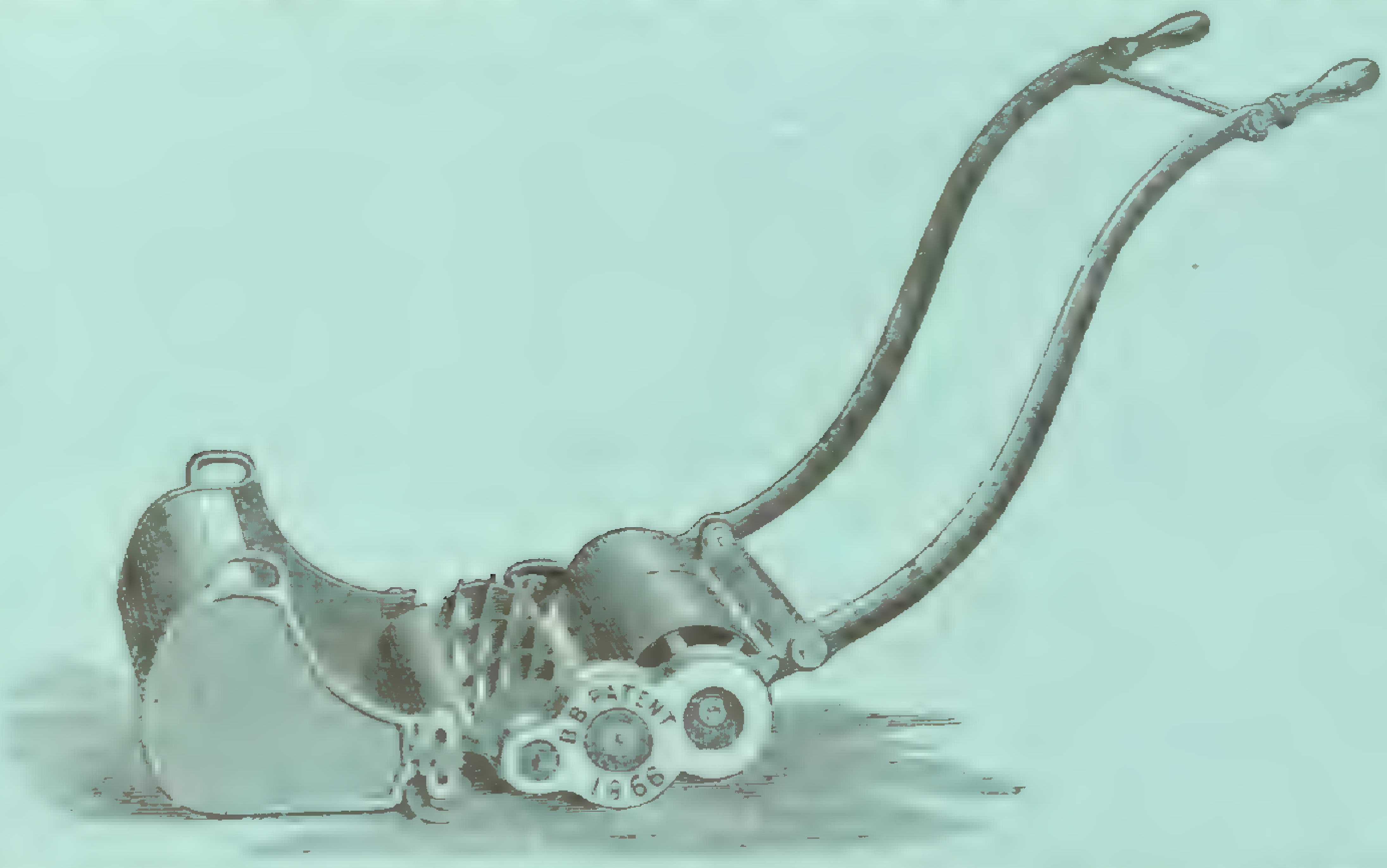

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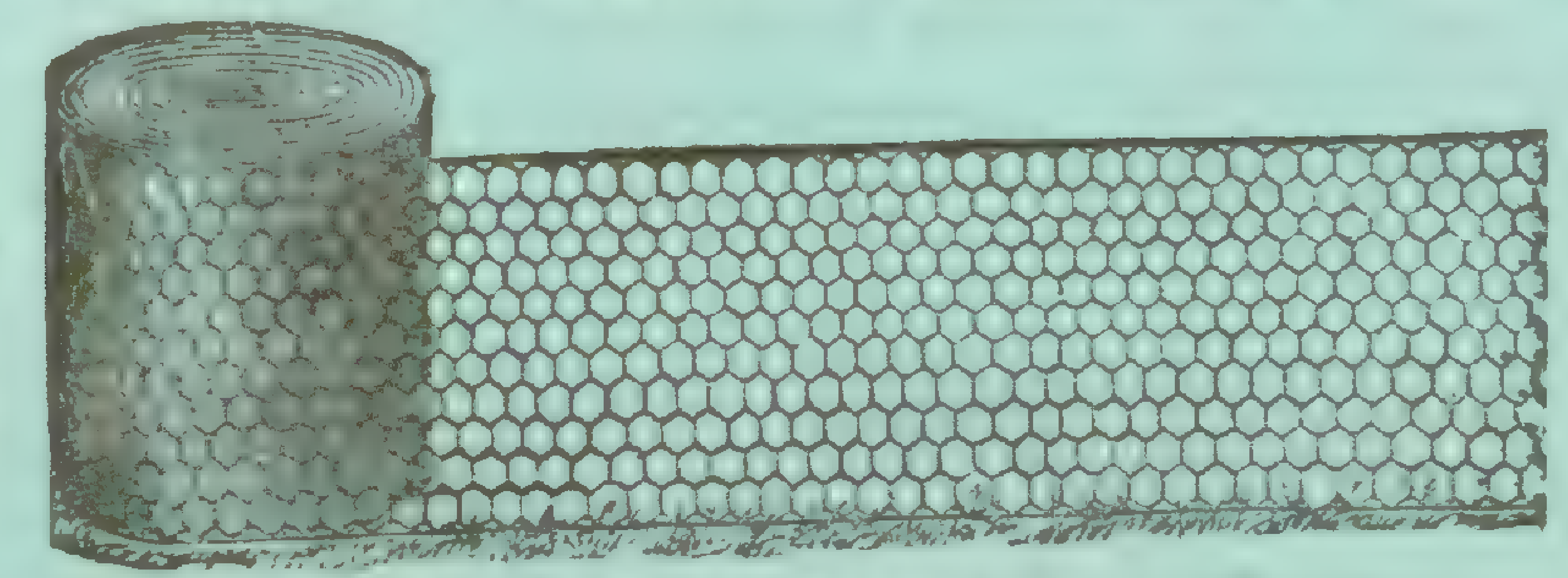

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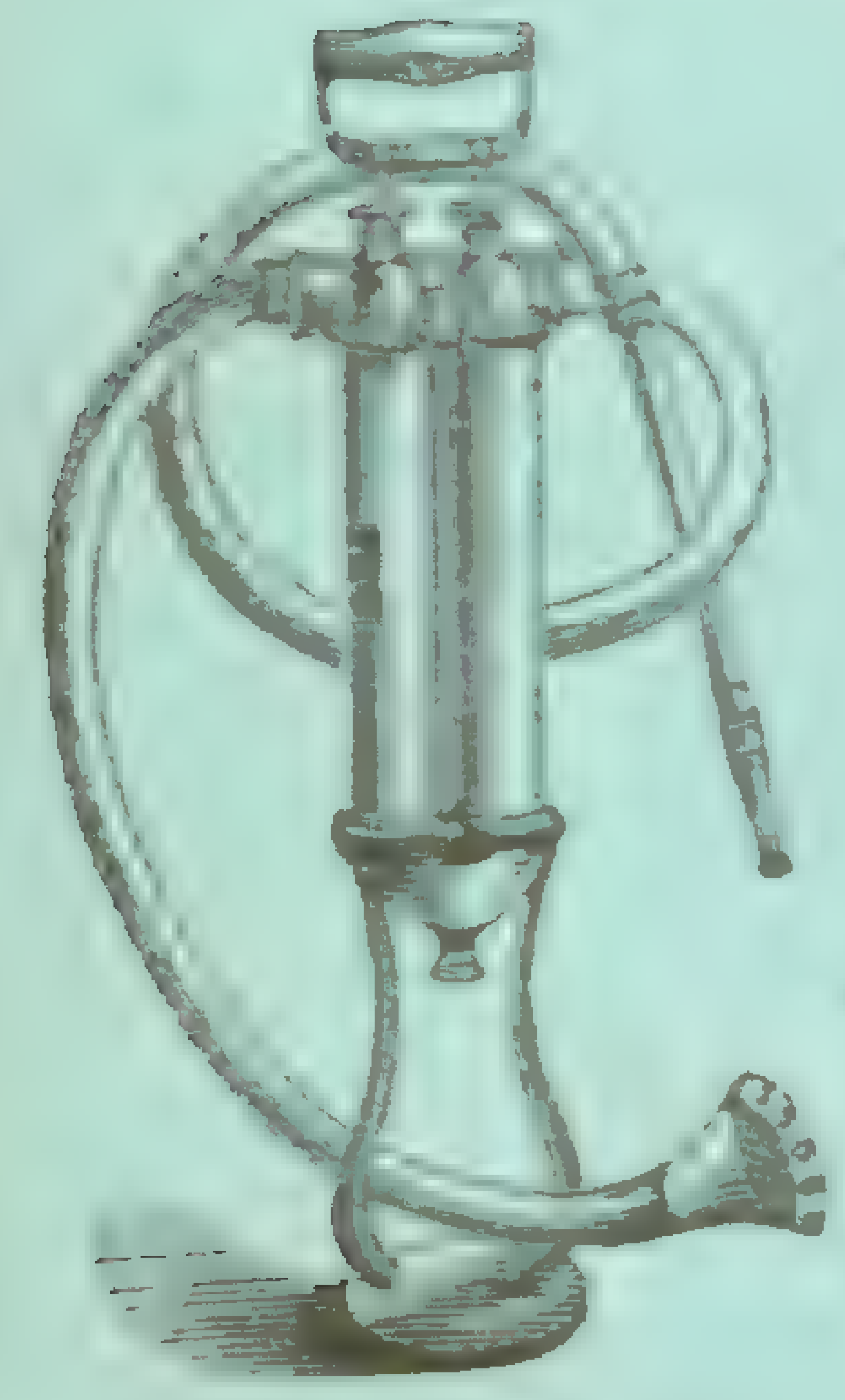

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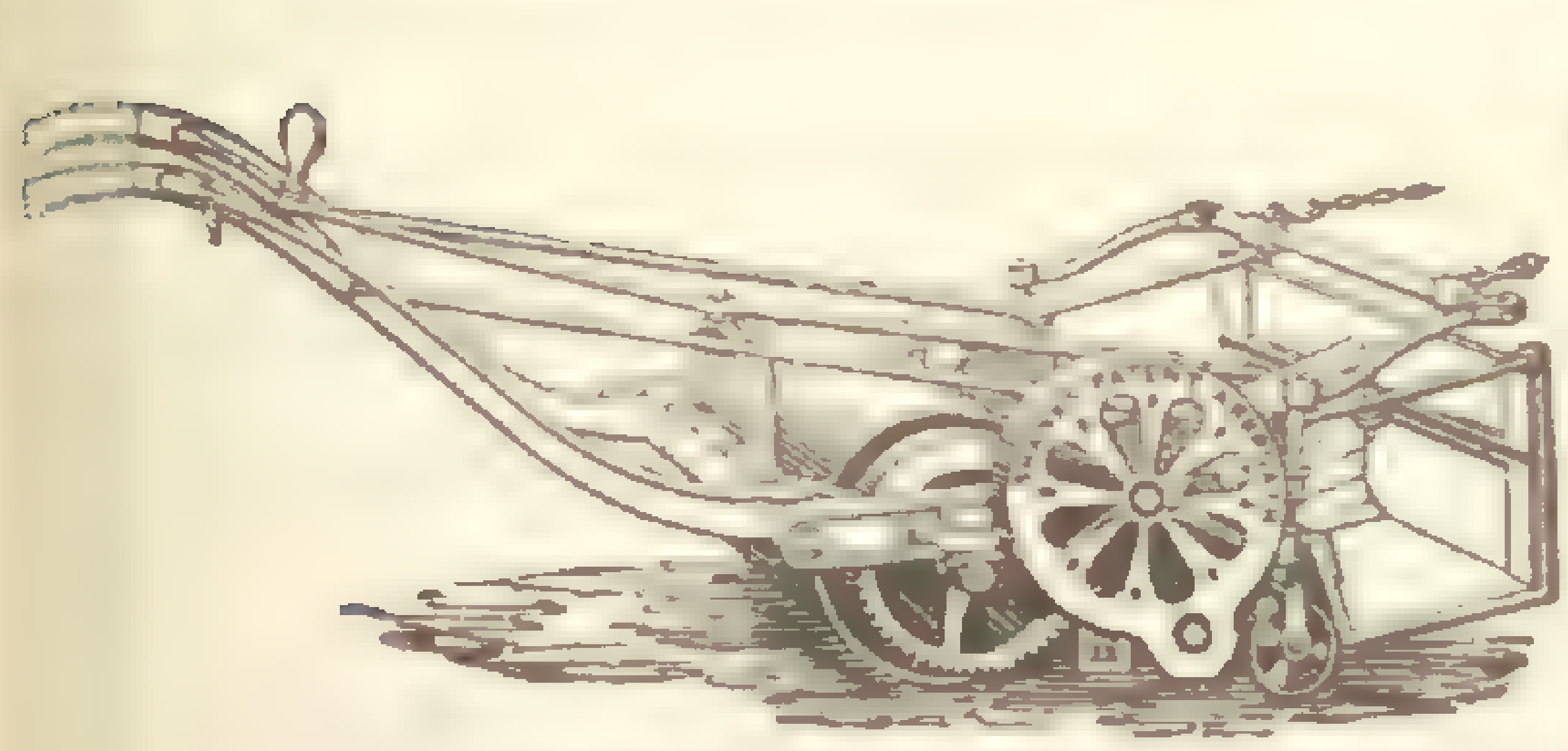

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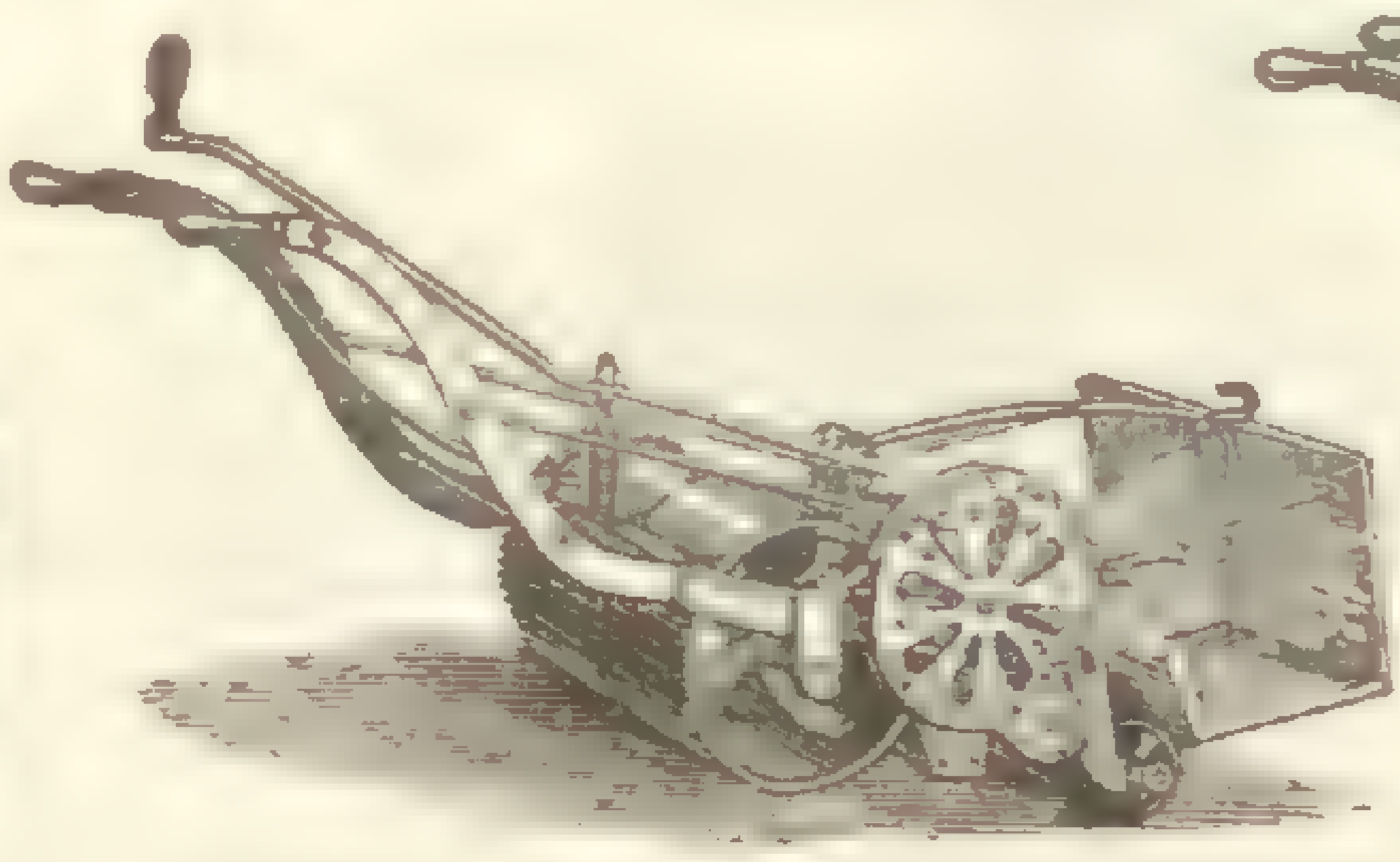

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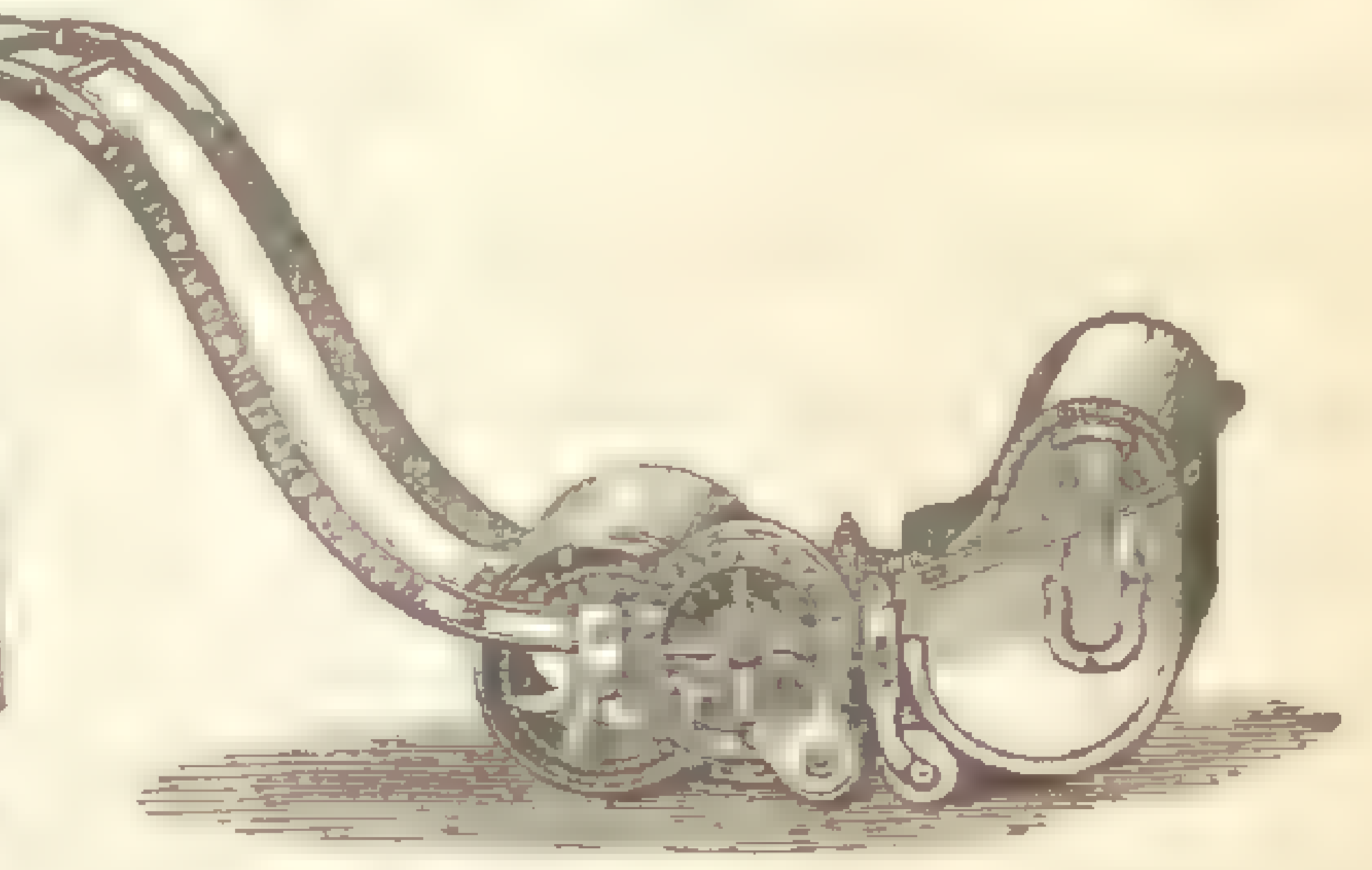

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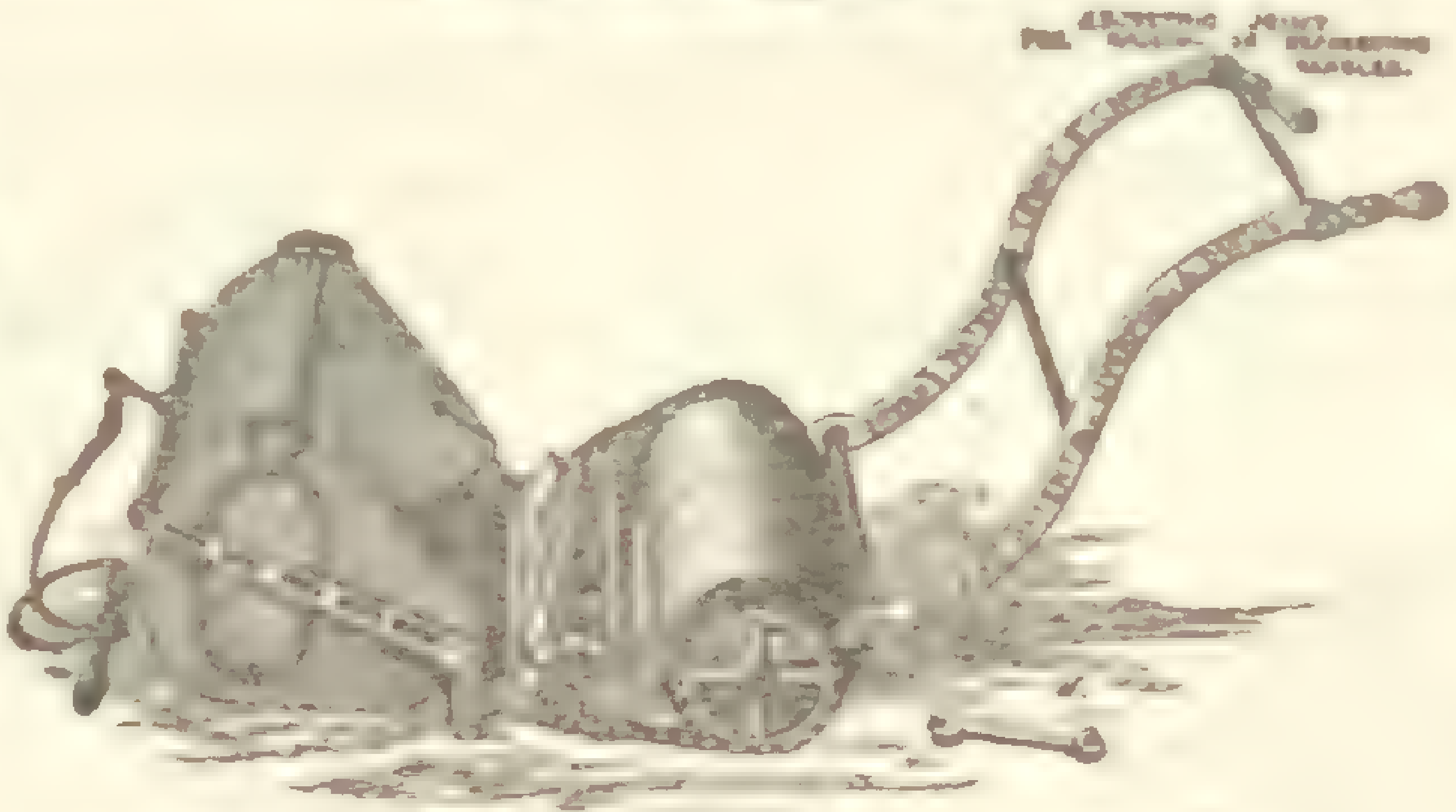

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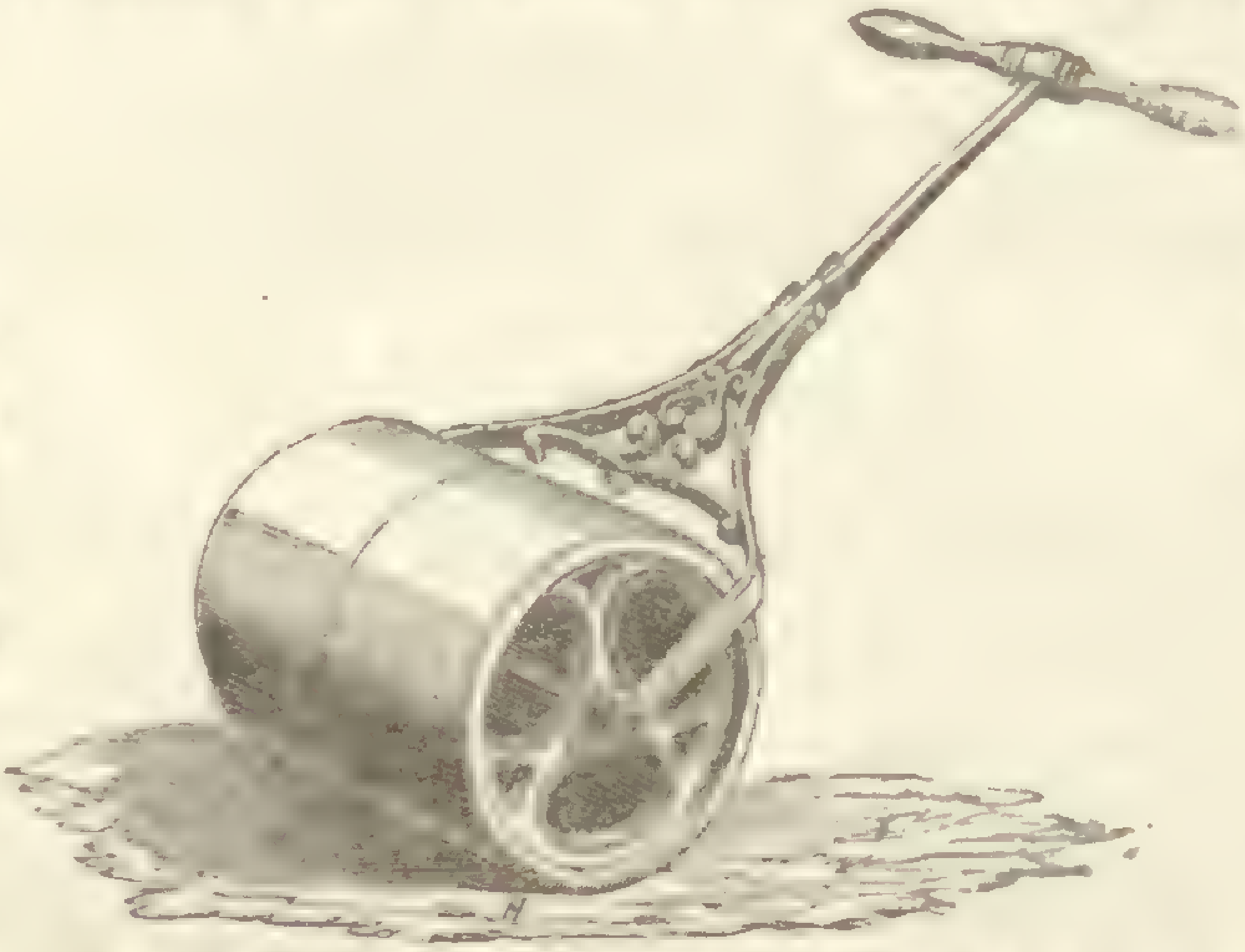

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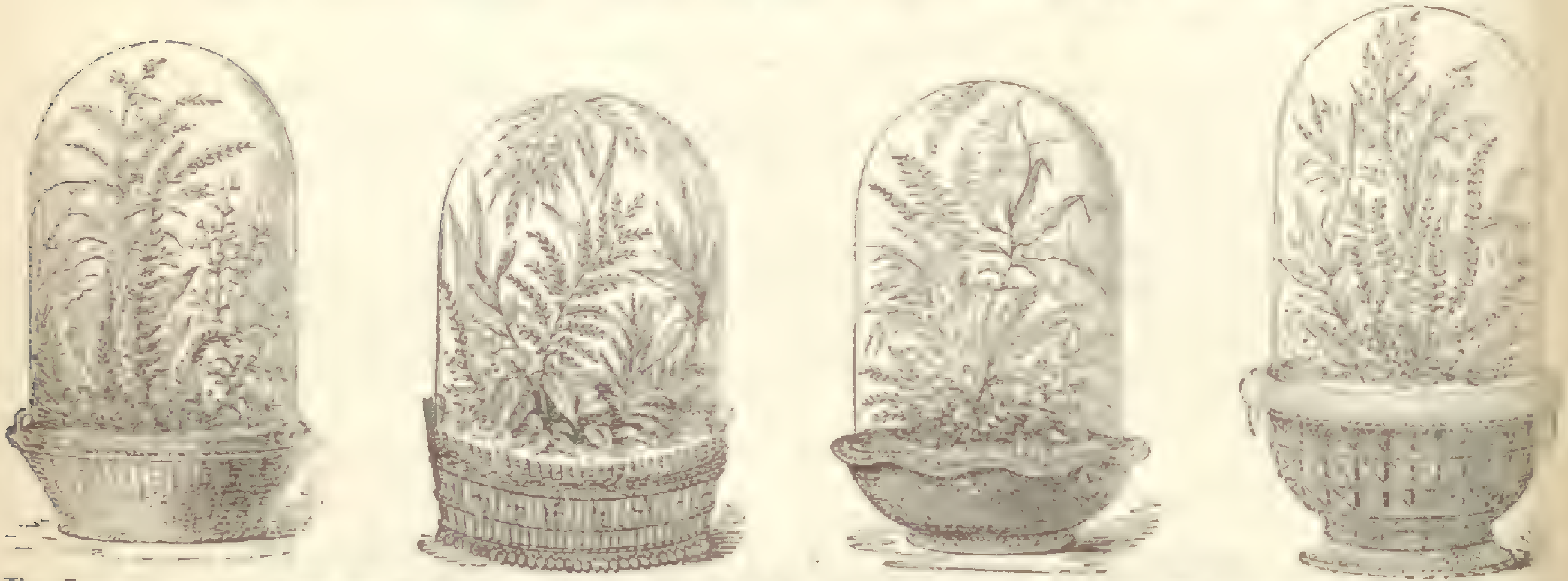

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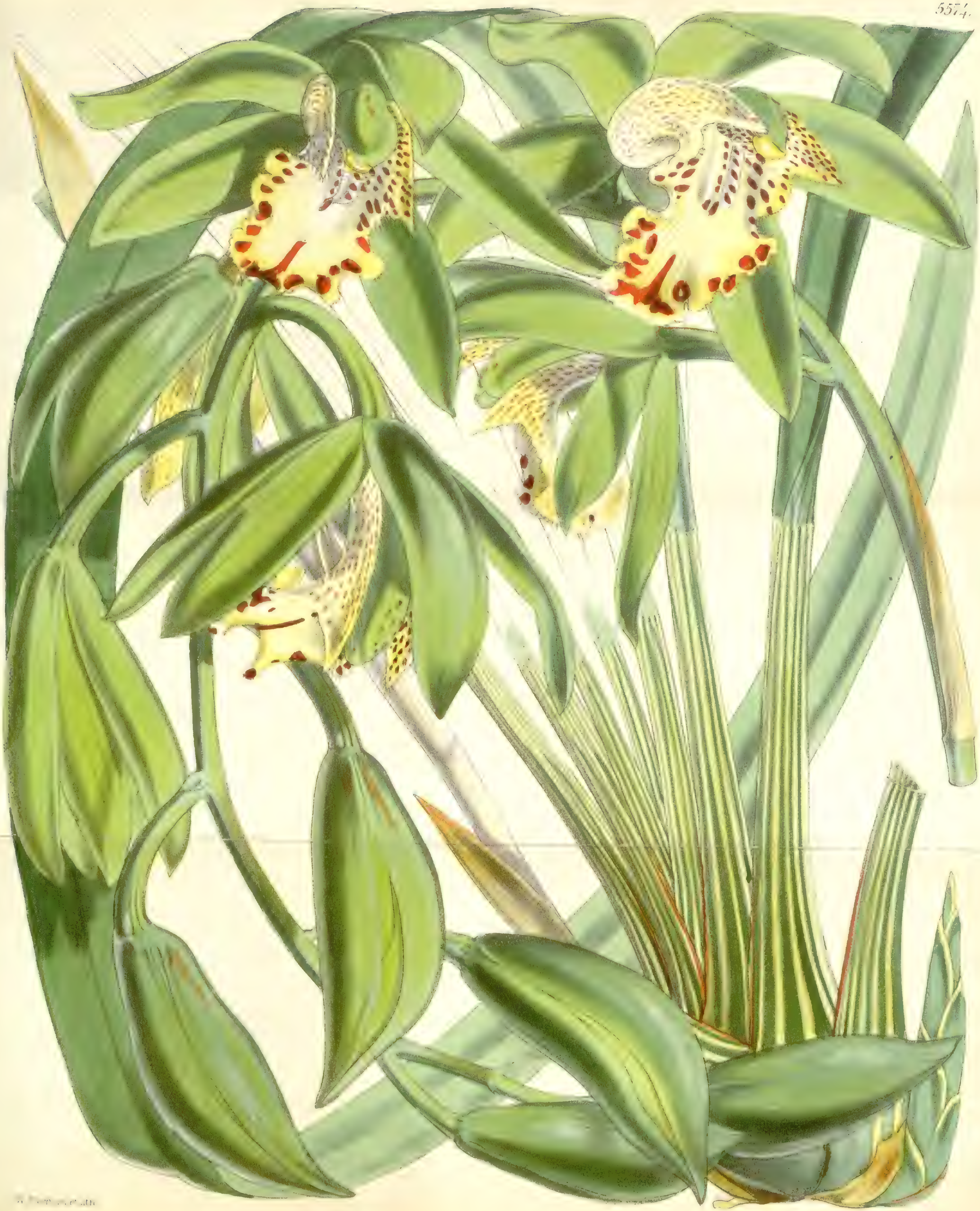

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TAB. 5574.

CYMBIDIUM HOOKERIANUM.

Dr. Hooker's Cymbidium.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4884.)

CYMBIDIUM *Hookerianum;* foliis lineari-ligulatis acutis (bipedalibus), vaginis energice striatis, pedunculo porrecto racemoso grandifloro, floribus illos Cymbidii eburnei æquantibus, sepalis petalisque stellatis, oblongis obtuse acutis, petalis paulo angustioribus, labello trifido, laciniis lateralibus basi subsemicordatis, seu æqualibus, antice angulatis, lacinia antica subcordata ovata transversa lobulosa, lineis geminis velutinis a basi disci in basin laciniæ anticæ, labello ceterum hinc illinc subvelutino.—Sepala et petala viridia. Labellum et columna albo-flavida, guttis atropurpureis. *Rchb. fil. in 'Gardeners' Chronicle,' Jan.* 6, 1866.

CYMBIDIUM Hookerianum. *Gard. Chron. l. c.*

I have copied from the 'Gardeners' Chronicle' for January 6 of the current year, Professor Reichenbach's account of this very remarkable plant, which was by him gracefully dedicated to Dr. Hooker, "with his best wishes and as a gratulation for the first New Year's Day of his Kew directorship." Mr. Fitch's drawing was taken from a plant that flowered this spring in the establishment of Messrs. Veitch, to whom it was sent many years ago by Mr. Lobb. According to Dr. Hooker, it grows wild in the Sikkim Himalaya, having been gathered there by himself in a district where he happened to meet with Lobb, who no doubt obtained his specimens from the same quarter. These flowered at Exeter not long after their arrival, but—owing probably to their having been kept too warm—many years elapsed before they flowered a second time. This, however, they have at length done, thanks no doubt to their having been placed by Mr. Dominy under cooler treatment. The species is epiphytical and should be grown in a large pot, in which, if properly managed, it presents a very striking appearance.

Dr. Hooker, who, it has been already mentioned, saw the plant in its native habitat, is of opinion that it should be regarded rather as a very fine and large variety of *C. giganteum* than as a distinct species. Some such notion had also suggested itself to my own mind, but the question had perhaps better be left in abeyance until we shall have had the opportunity of examining additional specimens. Under any circumstances—*i. e.* whether it be merely a striking variety or a truly distinct species—it will always be worthily associated with Dr. Hooker's name.

Descr.* *Leaves* one and a half to two feet long, acute, strap-shaped, tough and leathery, dilated at the base, where they are exceedingly striated or streaked with two shades of green, much more so than in the ordinary form of *C. giganteum*. *Scape* about the length of the leaves, erect in its lower portion (where it is covered with loose imbricated scales), but nodding from the point where the flowers are placed. *Flowers* from six to twelve, very large (four to five inches across), of a uniform green, the lip only excepted. *Ovaries* an inch and a half long. *Sepals* and *petals* stellate, oblong, obtusely-acute, the petals slightly narrower than the sepals. *Lip* three-lobed, the lateral lobes long, entire, flat, somewhat falcate and very sharp-pointed in front, bordered with fine hairs, the middle lobe crisp and fringed at the margin; on the disk are two upright ciliated lamellæ, parallel or slightly converging, more than half an inch in length; the whole of the lip is of yellowish-white, changed into deeper yellow at the edges, where it is velvety and decorated with rich reddish-purple spots. *Column* clavate, edged, smooth, green, with a few reddish dots.—*J. B.*

---

* The following description is mainly drawn up from a flower furnished by Messrs. Veitch, and varies in some respects from that of Professor Reichenbach.

TAB. 5575.

THIBAUDIA CORONARIA.

Small-leaved Thibaudia.

Nat. Ord. VACCINIACEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. (*Vide supra,* TAB. 4303.)

THIBAUDIA *coronaria;* pubescenti-pilosa, foliis parvis breviter petiolatis ovatis obtusis integerrimis crasse coriaceis enerviis utrinque sparse pilosis, floribus axillaribus solitariis v. binis, pedicellis gracilibus foliis æquilongis, calycis laxe lanuginosi tubo brevi acute 5-gono basi dilatato 5-lobo, lobis 5 triangulari-ovatis acutis, corolla urceolata obtusa 5-gona, lobis brevibus patenti-recurvis late triangularibus, filamentis brevibus dilatatis ciliatis æquilongis, antheris æquilongis loculis brevibus oblongis in tubum duplicem angustum erectum apice 2-porosum attenuatis ecalcaratis.

CERATOSTEMMA coronaria. *Hort. Lind.*

This is another importation of my friend Mr. J. Bateman, whose energy in introducing this beautiful class of plants into Britain has been rewarded by signal success in rearing and flowering them. For a warm greenhouse no plants can be more desirable, the bright green leaves—rarely, if ever, infested by insects—are always beautiful, and the flowers, which are produced in profusion, remain in beauty longer than those of any other ornamental plants of the same nature. How little known these Andean Vacciniaceous plants are may be gathered from the fact that this is the third figured in this magazine within five months. all new to cultivation and two likewise to science.

T. coronaria has been cultivated by Mr. Bateman under the name of *Ceratostemma*, by which it was sold by M. Linden, of Brussels, but I have no other information regarding it beyond that it flowered with Mr. Bateman in January of the present year. It is probably a native of New Granada or Venezuela. It differs generically from *Ceratostemma* in the filaments not being connate into a tube, and is perhaps referable to

Klotzsch's genus *Themistoclesia* (Linnæa, xxiv. 41), which, however, has a half-globose calyx. As many of that author's genera will certainly fall into *Thibaudia* on a revision of the Order, it appears to me safe to regard the present plant as a *Thibaudia* too.

Descr. A small, much-branched, rigid shrub. *Branches* stout, pale-green, and—as well as the leaves, peduncles, and calyces—covered with distant, lax, soft, spreading hairs. *Leaves* numerous, spreading and deflexed, half an inch long, ovate, obtuse, quite entire, often glabrescent above, which is deep shining-green, beneath pale; *midrib* and *nerves* none on either surface; *petiole* very short. *Pedicels* axillary, solitary or two together, as long as the leaves, woolly. *Flowers* nodding or drooping, nearly an inch long. *Calyx* short, almost square in outline, pale-green, the base dilated and five-lobed, sides acutely five-angled or rather with five deep depressions; *lobes* broadly triangular, acute. *Corolla* narrow-urceolate or tubular and inflated below, obscurely five-angled, with five short spreading and recurved lobes, dark-red and shining, quite glabrous. *Filaments* very short, free, oblong, margins ciliated. *Anthers* oblong, incurved, a little longer than the filaments, with a very long, straight, slender, double tube, opening by two oblong pores. *Style* slender, exserted; *stigma* minute. *Ovary* five-celled, many-ovuled. *J. D. H.*

Fig. 1. Flower. 2. Calyx. 3 and 4. Stamens:—*all magnified.*

5576

W. Fitch, del. et lith

Vincent Brooks, Imp

TAB. 5576.

MICROCACHRYS TETRAGONA.

Strawberry-fruited Cypress.

Nat. Ord. CONIFERÆ.—DIŒCIA MONANDRIA.

Gen. Char. Dioicum. *Ament. masc.* terminalia, solitaria, sessilia, ovoidea. *Antheræ* imbricatæ, 2-loculares, loculis globosis; *pollen* 3-gonum. *Ament. fœm.* terminalia, solitaria, sessilia, subglobosa. *Squamæ* patentes, arcte imbricatæ, carnosæ, rubræ, late ovato-rhomboidæ, concavæ, incurvæ. *Ovulum* solitarium, deorsum spectans, integumento exteriore abbreviato. *Strobilus* decurvus, ovoideus. *Semina* immatura dorso compressa, integumento exteriore basi cincta.—Frutex *prostratus, ramosus;* ramis 4-*gonis.* Folia *triangulari-ovata, arcte imbricata, obtusa, ciliolata.* Amenta *parva.*

MICROCACHRYS *tetragona.*

MICROCACHRYS tetragona. *Hook. f. in Lond. Journ. Bot. v.* 4. *p.* 150, *et in Flor. Tasman. v.* 1. *p.* 358. *t. C. B.*

ARTHROTAXIS (?) tetragona. *Hook. Ic. Pl. t.* 560.

This is surely one of the most remarkable of Conifers, and is in other respects one of the most interesting, being extremely rare in its native country, and presenting the unique character in the Order of bearing a fleshy brilliantly-coloured cone. It is true that we have in the Yew, and in various species of *Podocarpus*, etc., fleshy highly-coloured fruits, but a Conifer with the scales themselves of the young cones assuming a pulpy texture, semitransparent consistence, and bright colour, is, as far as I know, unique in the Order; whether these characters persist in the ripe fruit I am unable to say.

Microcachrys tetragona inhabits the tops of a very few mountains of Tasmania, viz. the Western range and Mount Lapeyrouse, where it forms low straggling bushes. The plant here figured was brought to Kew by my friend W. Archer, Esq., F.L.S., of Cheshunt, on whose property it grew, and was by him presented to the Royal Gardens, where it produced its female cones abundantly in 1862; but having no male plant wherewith to fertilize it, no seeds were obtained.

MAY 1ST, 1866.

Descr. A low, rambling bush, with tough, straggling, four-angled branches and branchlets, clothed with evergreen, appressed imbricate leaves. *Leaves* one-tenth to one-sixth of an inch long, ovato-rhomboid, obtuse, ciliolate, convex at the back, obscurely keeled when dry. *Male cones* terminal, small, oblong or ovoid, one-eighth of an inch long, of twenty to thirty anthers, each consisting of a triangular scarious scale, having at its base two cells, opening by transverse slits. *Female cones* also terminal, ovoid or globular, one-fourth to one-third of an inch long, bright red, translucent. *Scales* thick and fleshy, with one naked ovule at their base. *J. D. H.*

Fig. 1. Leaf. 2. Young female cone. 3. Scale and ovule of ditto. 4. Ripe female cone. 5. Scale and ovule of ditto. 6. Branch of male cones. 7. Male cone. 8. Anther:—*all but fig.* 6 *magnified.*

5577.

W Fitch del.et lith.

Vincent Brooks, Imp.

TAB. 5577.

IRIS RETICULATA.

Netted Iris.

Nat. Ord. IRIDEÆ.—TRIANDRIA TRIGYNIA.

Gen. Char. (*Vide supra*, TAB. 5298.)

IRIS *reticulata;* foliis angustis strictis erectis linearibus acutis obtuse 4-gonis cavis glaucis, perianthii segmentis exterioribus angustis cuneiformi-oblongis patentibus imberbibus, interioribus longioribus æquilongisve erectis elongatis lanceolatis anguste spathulatis, ovario obtuse 3-gono, stigmatibus oblongis, labio superiore 2-lobo recurvo serrato, inferiore brevissimo.

IRIS reticulata. *Bieberstein, Fl. Taur. Cauc. v.* 1. *p.* 34. *Cent. Plant. Rar. Ross. v.* 1. *t.* 11. *Sweet, British Fl. Garden, ser.* 2. *v.* 2. *t.* 189. *Journ. Hort. Soc. v.* 3. *p.* 166.

Though far from the largest or most gorgeous, this is really one of the most beautiful species of *Iris* in cultivation; nothing can exceed the deep rich violet of its perianth-lobes and stigmata, or the delicious fragrance of violet it exhales, whilst the leaves are of a less coarse appearance and texture than is usual in the genus. The Royal Gardens are indebted for the plants here figured to Colonel Scott, R.E., who procured them through his friend Captain Smith, R.E., a gentleman employed in the telegraph department in Persia; they flowered in a cool greenhouse in March of the present year. The plant is a native of Georgia, Asia Minor, Kurdistan, Syria, and Persia, and is extremely well deserving of cultivation as a spring flower of easy culture.

DESCR. *Root* a solitary tuber, coated with a firm network of fibres. *Leaves* one foot high, striate, erect, glaucous, obtusely four-angled, slightly twisted, with a sharp apex; *Sheaths* with white scarious edges, closely appressed to the bases of the leaves and flower-stems. *Flowers* three to four inches in diameter, solitary, erect, deep-violet in hue and fragrance. *Perianth* with the tube one inch long, slender:

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outer segments spreading, oblong-cuneiform, with a stout green midrib, *blade* dark-purple, with deeper veins and brilliant orange blotches towards the base; *inner* suberect, narrow spathulate, as long as the outer, obtuse, slightly waved, all purple. *Ovary* obtusely trigonous. *Stigma* pale-purple; *upper segment* reflexed, serrate, two-lobed; *lower* almost obsolete. *J. D. H.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5578.

CEROPEGIA SORORIA.

Kaffrarian Ceropegia.

Nat. Ord. ASCLEPIADEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 5306.)

CEROPEGIA *sororia;* volubilis, glabra, caule tenui, foliis anguste linearibus utrinque acutis internodiis longioribus, pedunculis axillaribus unifloris elongatis, sepalis lineari-subulatis, corollæ tubo glabro elongato, parte inferiore inflata elongata oblonga, parte superiore inferiore æquilonga cylindrica, lobis partem superiorem tubi æquantibus pendulis lineari-oblongis acutis ciliatis, coronæ stamineæ lobis exterioribus subulatis longe ciliatis, interioribus elongatis glabris.

CEROPEGIA sororia. *Harvey, mss.*

In the eighty-ninth volume of this work a very remarkable South African species of this genus is figured,—*C. Bowkeri*, Tab. 5407,—partaking very much of the character of this in the singular pendulous lobes of the corolla, which move with the faintest breeze, and probably are intimately connected with the function of impregnation, though how does not appear. Like many South African plants, it has large tuberous roots, though I cannot say whether, like its above-named congener, it is erect in its native country and becomes a twiner in our damper climate, having no indigenous specimen at hand to judge from. The specimen here figured was flowered by Dr. Moore, of Glasnevin, in May, 1865, from seeds sent by Mrs. F. W. Barber, from Kaffraria, and named by Dr. Harvey, who is engaged in working up the *Asclepiadeæ* for the Cape Flora. Its name, *sororia* (*sisterly*), alludes to its kinship with *C. Bowkeri*, Miss Bowker (now Mrs. Barber) having sent both species to Dr. Harvey. It has also been found by Zeyher in the Albany district.

DESCR. A slender, glabrous, rather glaucous, branching climber, with almost filiform stems and branches and long internodes. *Leaves* four to seven inches long, very narrow,

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linear-lanceolate, not half an inch broad, dark-green above, glaucous beneath. *Peduncles* axillary, solitary, about as long as the internodes, one-flowered. *Flowers* an inch and a half to two inches long, pale-green, the reflexed lobes of the corolla darker green, with a double row of transverse purple bars above, pink beneath. *Calyx-lobes* linear-subulate, not half the length of the swollen base of the corolla; *tube of the corolla* consisting of a narrow inflated lower and cylindrical upper portion of equal length, glabrous; *lobes* as long as the upper portion, linear-oblong, acute, villous and ciliated, keeled down the middle with reflexed sides. *J. D. H.*

Fig. 1. Calyx and crown of anthers, etc. 2. Pollen-masses:—*both magnified.*

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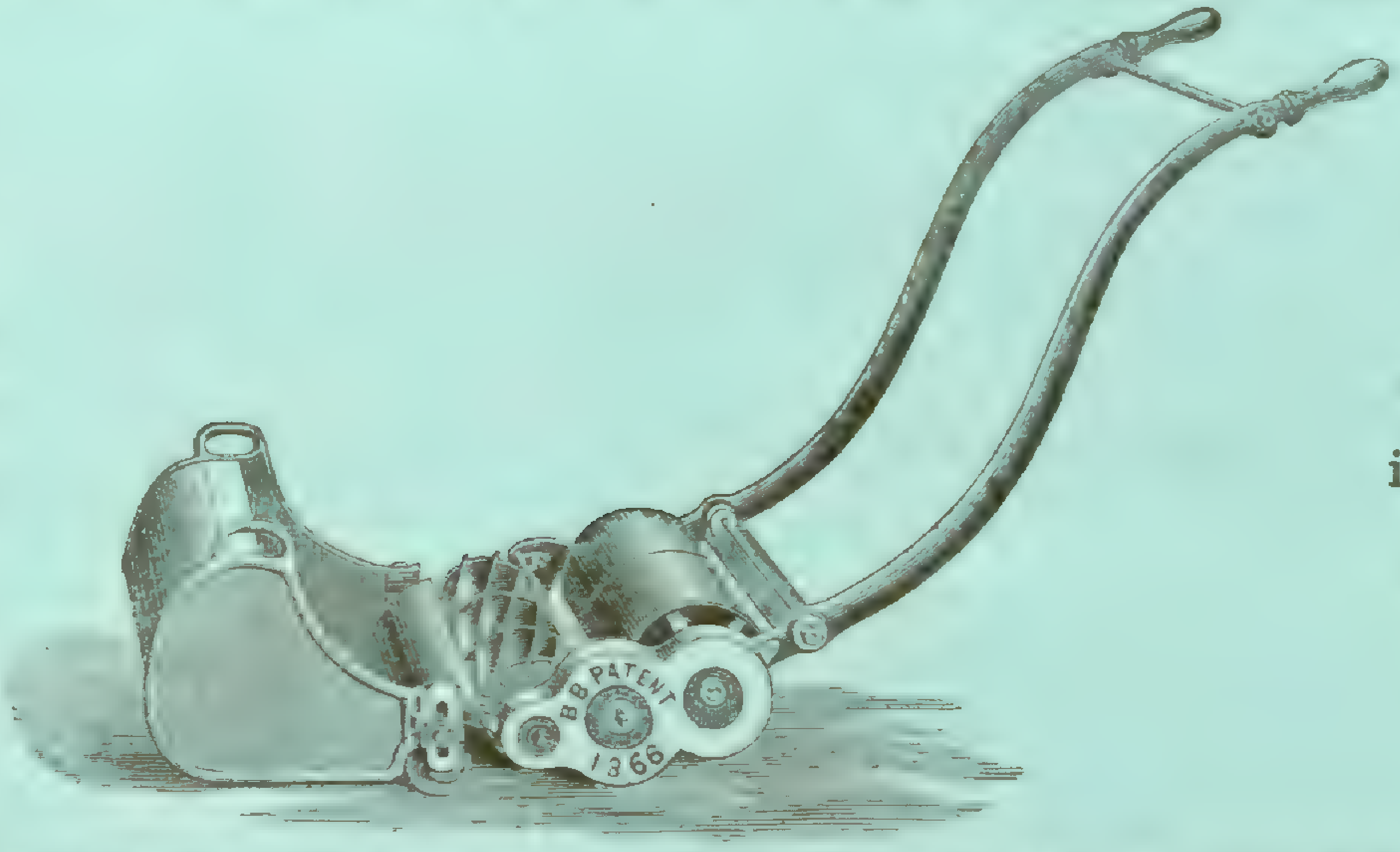

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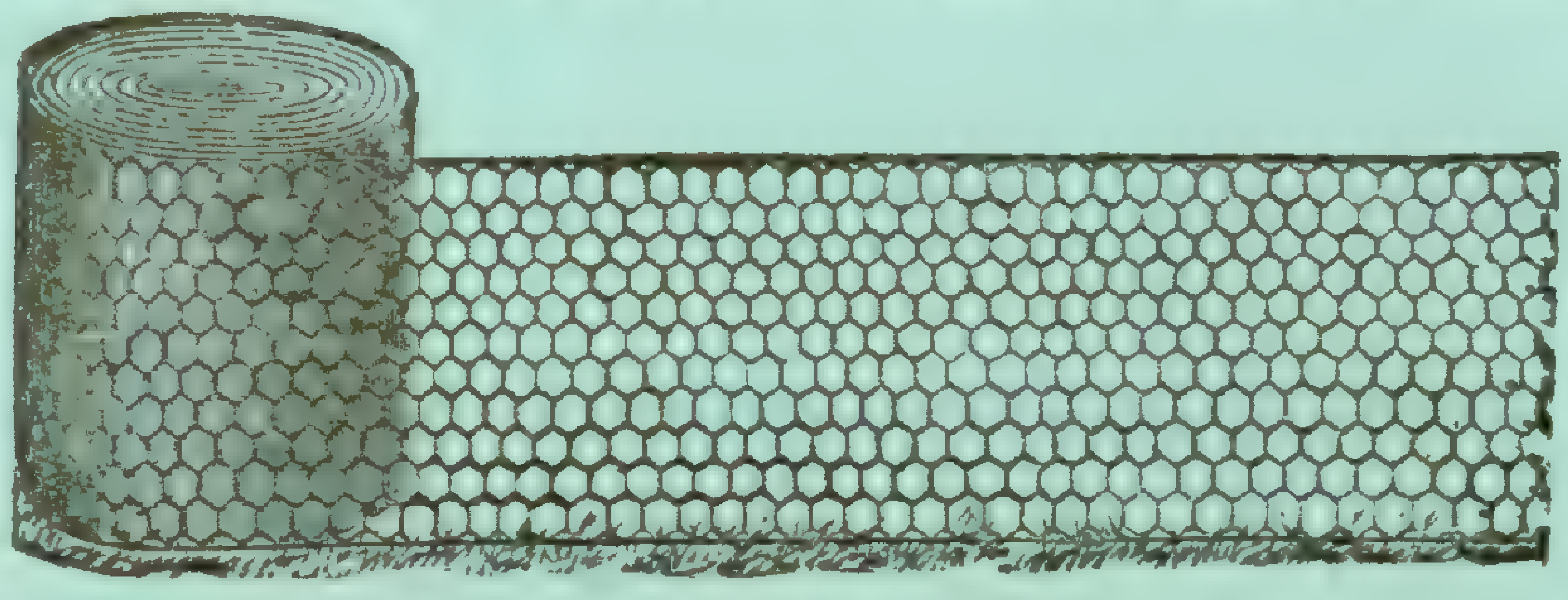

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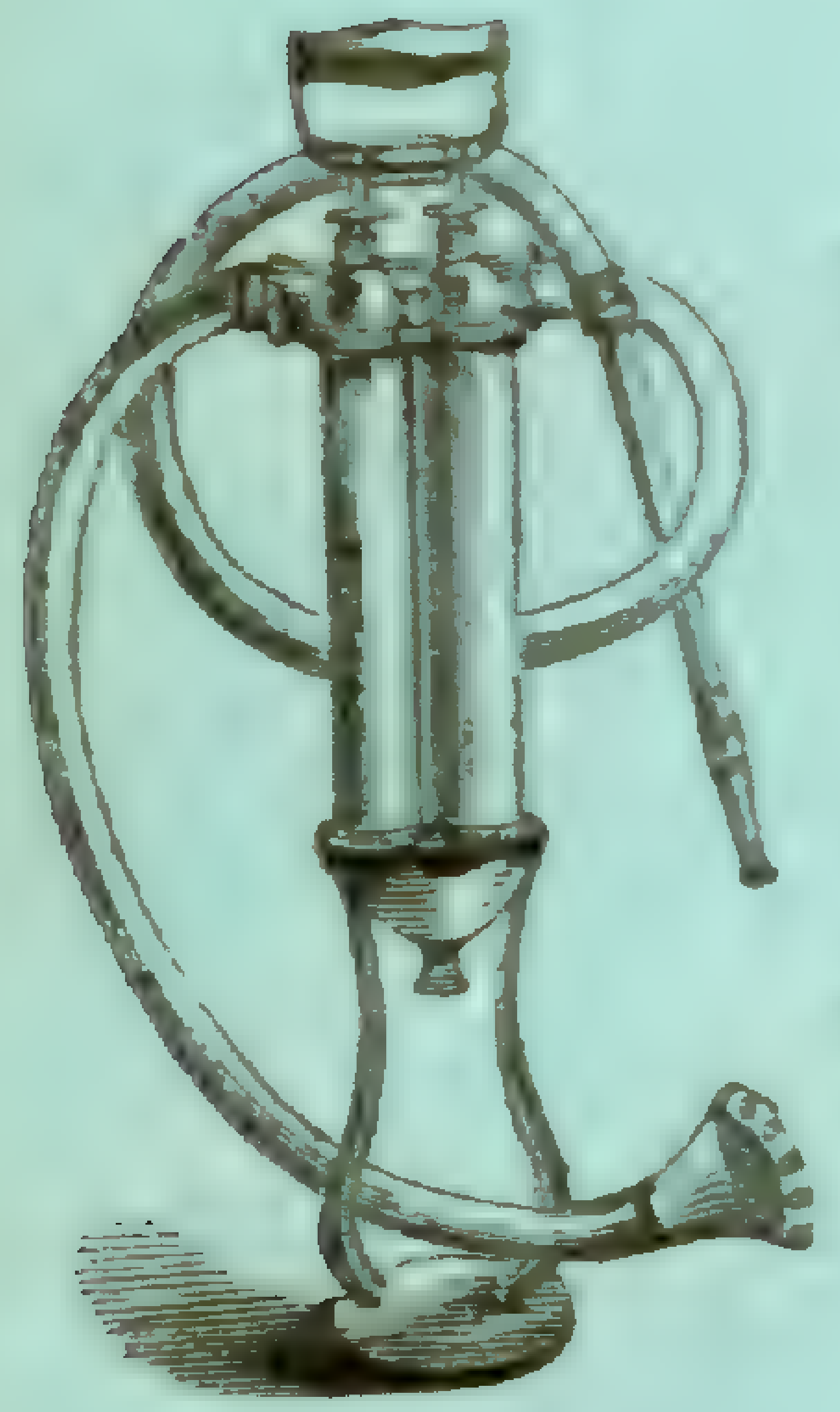

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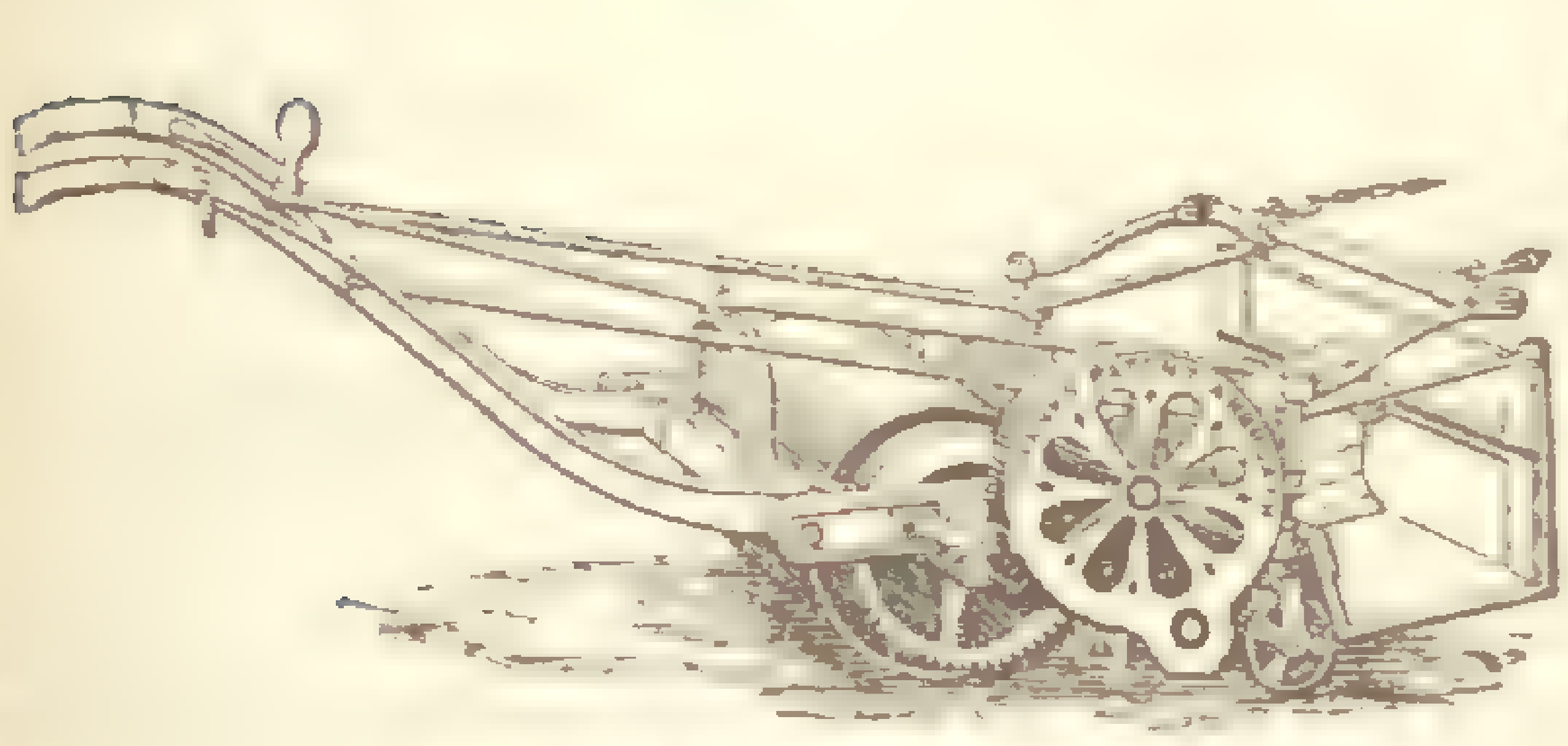

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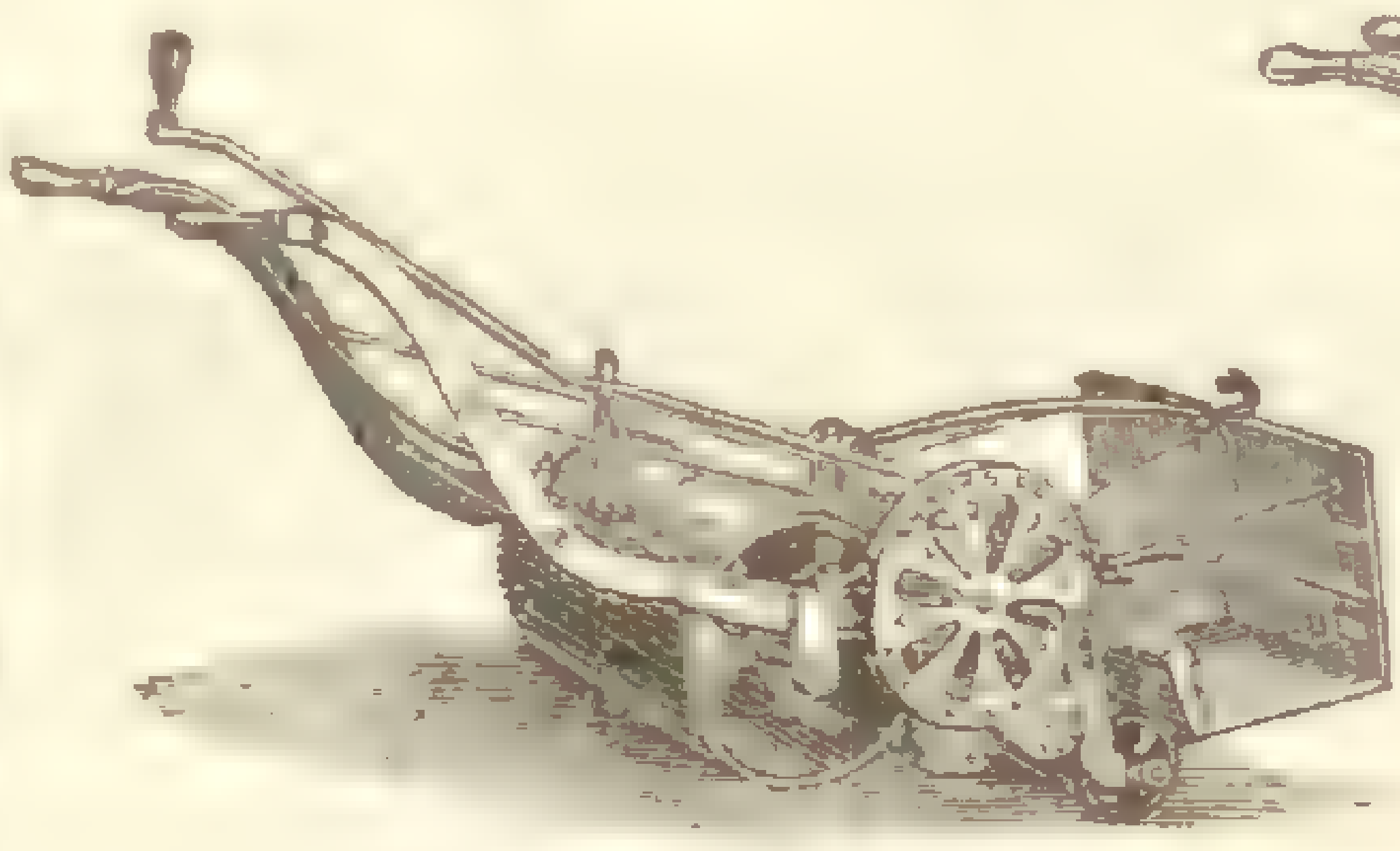

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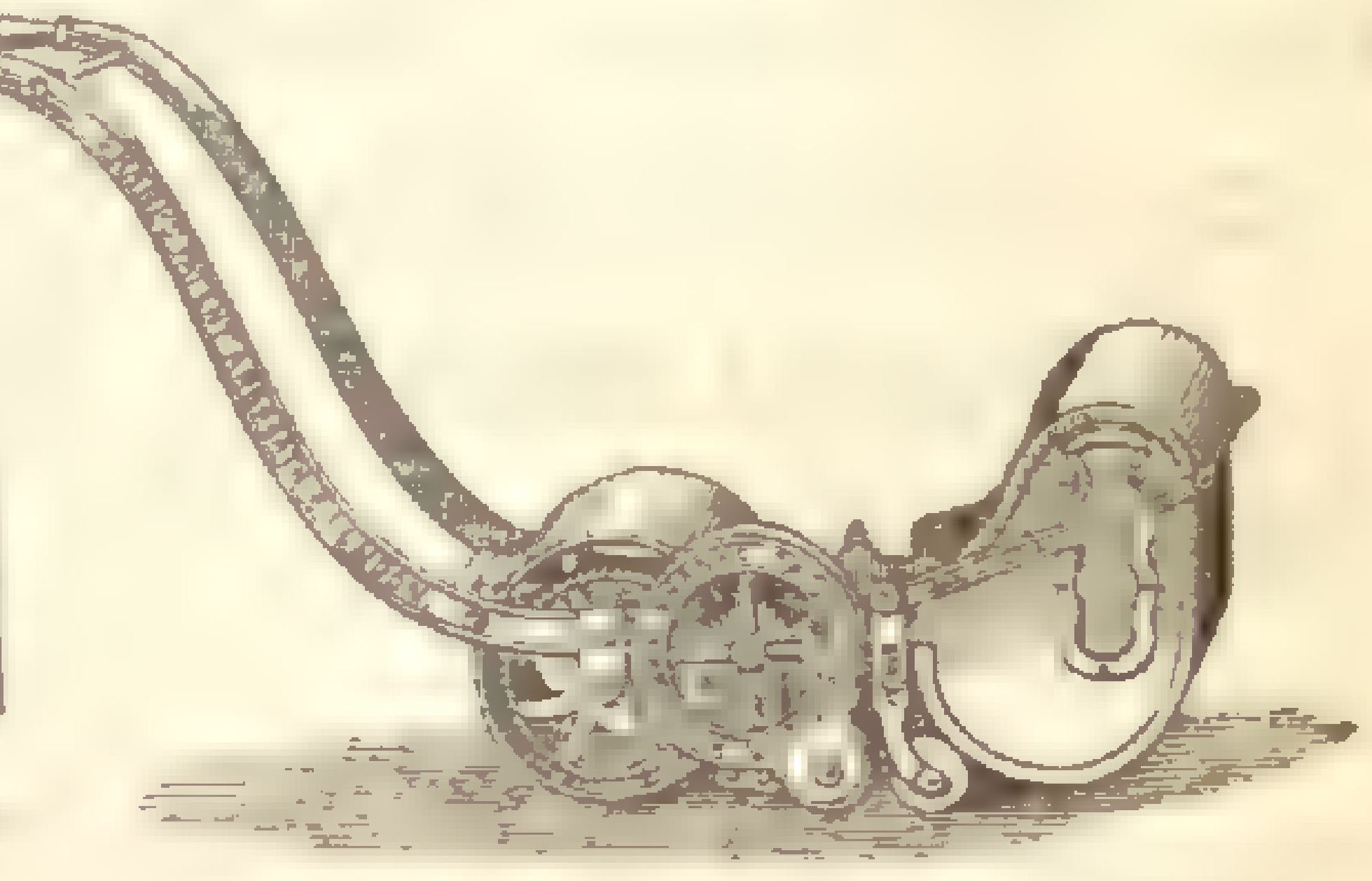

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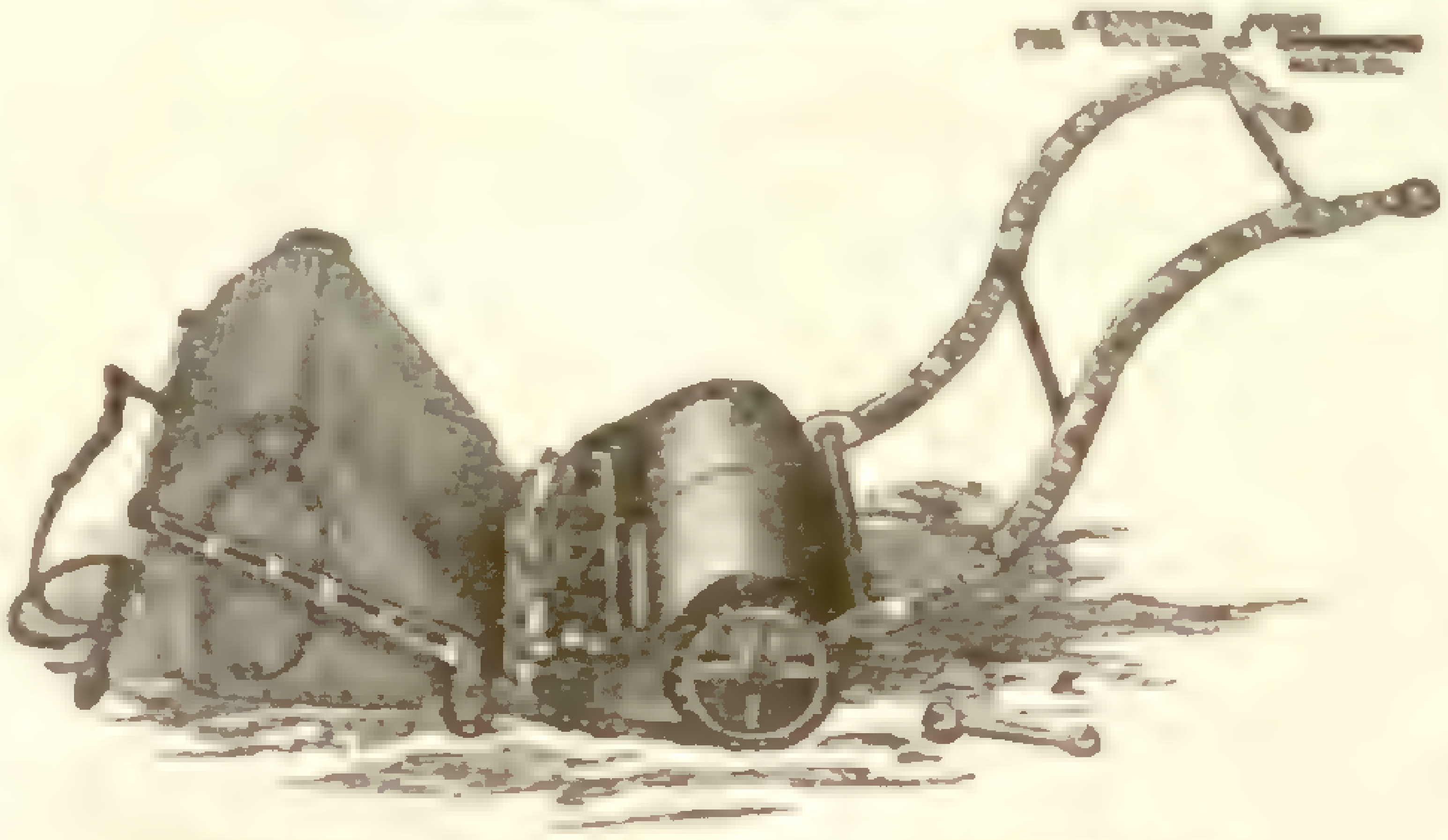

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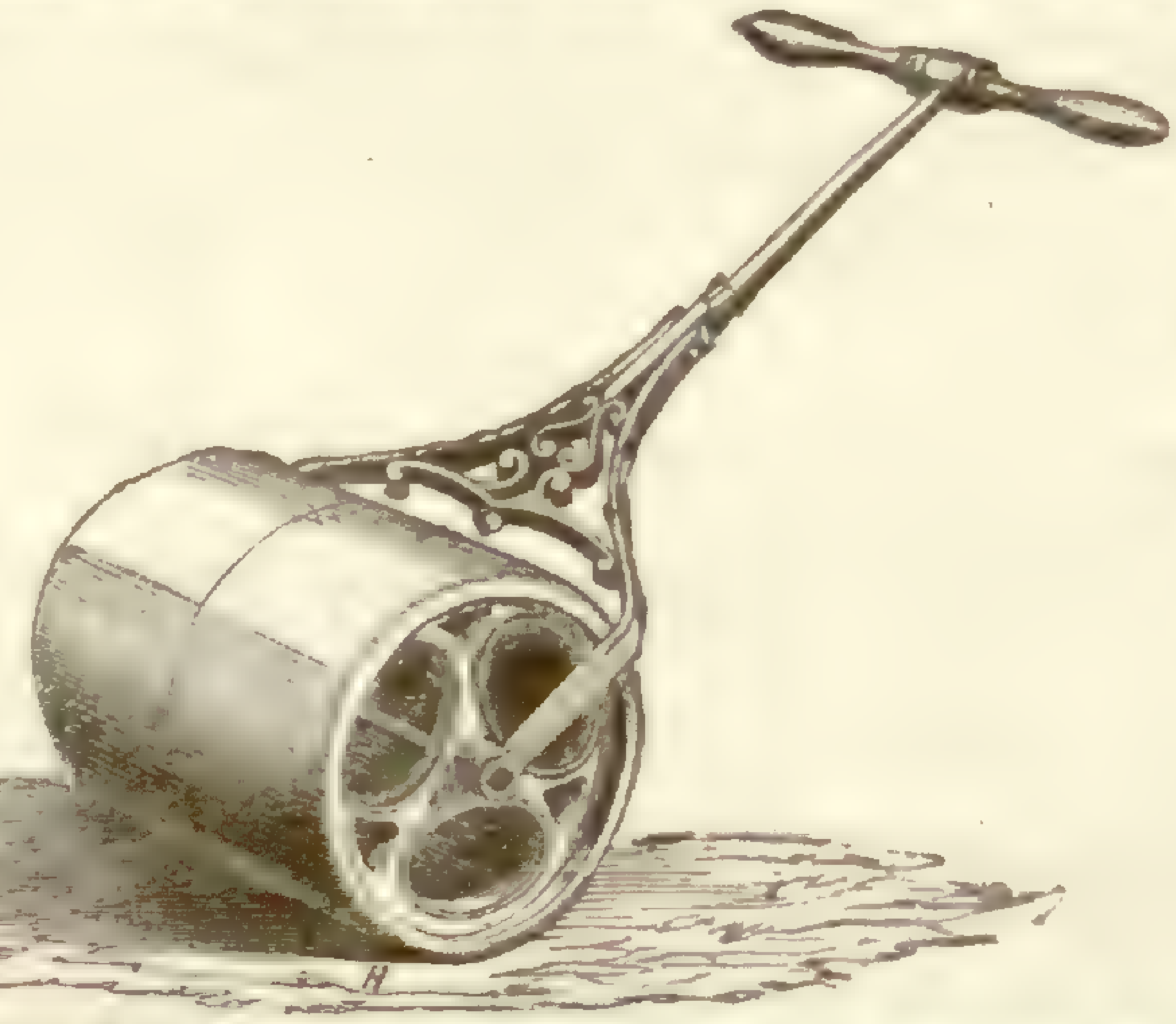

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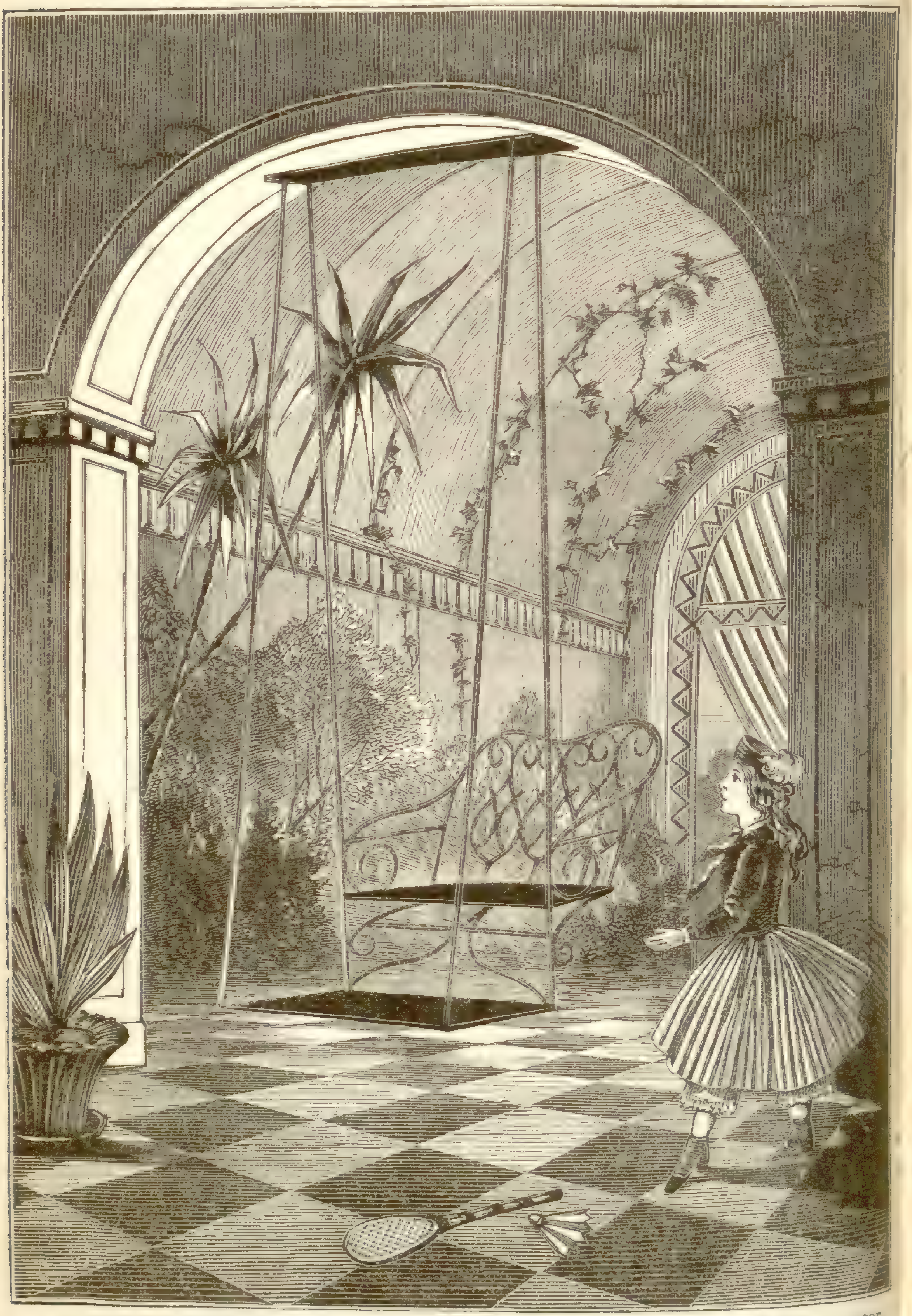

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5519.

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TAB. 5579.

EULOPHIA VIRENS.

Greenish Eulophia.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra,* TAB. 5561.)

EULOPHIA *virens;* foliis gramineis lineari-lanceolatis scapis ramosis brevioribus, sepalis petalisque oblongis obtusis basi angustatis tessellatis, labelli trilobi barbati lobis lateralibus abbreviatis intermedio ovato obtuso, calcare erectiusculo conico. *Lindl. Gen. et Sp.*

SERAPIAS epidendroides. *Retz. Obs.* 6. 65.

LIMODORUM virens. *Roxb. Corom. v.* 1. *t.* 38.

LIMODORUM epidendroides. *Willd. Sp. Pl. v.* 4. *p.* 123–4.

This is not by any means a showy plant, a circumstance that may have had something to do with its tardy introduction to European collections. It is a native of the Nilgherries and also of Ceylon where Mr. Thwaites met with it, and it is to him that the Royal Gardens at Kew are indebted for living specimens, one of which flowered there not long ago. It may be treated like the *E. euglossa*, figured in the February number of this work.

DESCR. *Pseudobulbs* roundish-ovate, two or three inches long, bearing several narrow grassy *leaves*, which are shorter than the branched or sometimes simple *scapes*. *Sepals* and *petals* nearly equal, oblong, bluntly pointed, narrowed at the base, of a yellowish-green, tessellated with brown lines. *Lip* longer than the petals, white with purple streaks, three-lobed, the lateral lobes being shortened, and the central one crisp at the margin obtuse and recurved at the apex, and furnished with rows of dark hairs along its disk; at its base is a short nearly upright conical spur. *Column* continuous with the lip, but not more than a third of its length.—*J. B.*

Fig. 1. Lip and column, seen sideways. 2. Lip. 3. Column. 4. Pollen-masses:—*magnified.*

JUNE 1ST, 1866.

5580.

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Vincent Brooks, Imp.

Tab. 5580.

SCILLA Cooperi.

Cooper's Squill.

Nat. Ord. Liliaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra,* Tab. 5308.)

Scilla *Cooperi*; bulbo subgloboso, foliis 8–10 poll. longis elongato-lanceolatis obtusiusculis striatis utrinque concoloribus subtus purpureo lineatis et basin versus maculatis, scapo viridi foliis breviore, racemo 2–3-pollicari subdenso cylindrico, pedicellis patentibus pallide purpureis $\frac{1}{8}$–$\frac{1}{2}$ poll. longis, bracteis minutis, floribus purpureis $\frac{1}{3}$ poll. latis, petalis patentibus non reflexis oblongis obtusis dorso apice incrassatis, staminibus erectis, antheris peltatis, ovario breviter stipitato depresso-hemisphærico 6-sulcato basi dilatato 6-lobo, stylo brevi recto, loculis 2-ovulatis, ovulis geminis.

The Cape bulbs are sufficiently numerous and difficult of determination to form a study of themselves; and as they are wanting neither in interest nor beauty, it is to be hoped that they may soon find a historian. At present all is confusion as regards the genera and species of this long-cultivated tribe, and we know no more difficult plants than these to name. The pretty species here represented has the habit and appearance of many *Drimias,* but differs from the typical species of that genus in the two-ovuled cells of the ovary, and in the spreading lobes of the perianth, which are neither reflexed nor do they form a tube at the base. From the technical characters of *Scilla* it differs in the definite ovules; but as it agrees in other respects, and is evidently a very close ally of the Canary Island *S. Berthelotii* (Tab. nostr. 5308), which has also only two ovules in each cell, I cannot (in the present state of our knowledge) refuse it a place in that genus, of which but few Cape species have hitherto been described. The stipitate ovary, with two geminate ovules in each cell, occurs in other plants hitherto referred to *Drimia*, and may form a good sectional or generic character for various plants hitherto referred to this genus or *Scilla*, and possibly belonging truly to neither. Our only knowledge of *S. Cooperi* is derived from Mr. Cooper's Cape bulbs, for which the Royal Gardens are indebted to Mr. Wilson Saunders, F.R.S.

DESCR. *Bulb* subglobose, purple, smooth. *Leaves* eight to ten inches long, three-quarters of an inch broad, narrow, linear-lanceolate, rather obtuse, striated, green on both sides, streaked with purple at the back, and spotted there towards the base. *Scape* shorter than the leaves, green. *Raceme* cylindric, two to three inches long. *Flowers* rather close-set, dark-red purple; *pedicels* a quarter to half an inch long; *bracts* very small. *Perianth lobes* oblong, spreading, obtuse and thickened at the apex. *Stamens* inserted in the perianth lobes, shorter than they are; *anthers* oblong. *Ovary* hemispherical, six-lobed, with a broad six-lobed dilatation, then suddenly contracted to a short pedicel; *style* short, erect, subulate; *stigma* minute; *ovules* two, ascending in each cell, collateral.—*J. D. H.*

Fig. 1. Flower. 2. Ovary. 3. Transverse section of ditto:—*all magnified.*

5581.

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Vincent Brooks, Imp.

Tab. 5581.

CUPRESSUS Lawsoniana.

The Lawson Cypress.

Nat. Ord. Coniferæ.—Monœcia Monandria.

Gen. Char. Flores in diversis ramis monoici. Masc. *Amenta* terminalia, cylindrica. *Stamina* decussatim opposita, 4-fariam imbricata; *connectivo* peltato mutico, loculis 2–4 subglobosis. Fœm. *Amenta* terminalia, subglobosa; *squamis* 6–12, basi superne incrassatis, inferne solutis. *Ovula* ad basin squamarum pauca v. plurima, erecta, lagæniformia. *Strobilus* e squamis lignosis suborbicularibus angulatis peltatis, vertice mucronatis v. umbonatis, primum conniventibus, demum hiantibus. *Semina* ad basin stipitis squamarum 2–3–∞, compressa v. angulata, marginata v. alata. *Embryo* in axi albuminis carnosi 2-cotyledonus.—Arbores *et* frutices *sempervirentes.* Folia *minuta, decussatim imbricata, squamæformia v. rarius acerosa, sæpe dorso glandula notata.* Gemmæ *nudæ.*

Cupressus *Lawsoniana;* arborea, ramis patulis 4-gonis, foliis appressis imbricatis late ovatis acutis ovato-triangularibusve dorso sæpissime glanduliferis, strobilis parvis globosis glaucis, squamis ad 8, vertice rhombeo lamina horizontali v. decurva patente late triangulari acuta instructo, ovulis 3–4, seminibus alatis.

Cupressus Lawsoniana. *Murray ex Gordon, Pinet. p.* 62.

? Chamæcyparis Boursieri. *Dcne. Ann. Soc. Bot. France,* 1854, *p.* 70. *Carrière, Traité Gen. Conif. p.* 141.

The beautiful tree here represented has for the last few years been a great favourite in our gardens and shrubberies. and though a good many years must elapse before it attains arboreous stature (it is said to rise to a hundred feet in its native country), it has reached a sufficient height (fourteen to twenty feet) to demonstrate that it increases in beauty with its years up to that and probably a much greater elevation. It was discovered—by Mr. Jeffreys, I believe—in the mountain valleys of northern California, lat. 40°–42° N., and the first description I find of it is in Gordon's valuable 'Pinetum.' According to this author, the *C. Boursieri* of Decaisne is a synonym of it. Not having seen that plant, we cannot confirm the identification; but if correct, it is very

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possible that the name *C. Boursieri* should replace that of *Lawsoniana*,—a contingency that would be greatly to be regretted, as the name of one of the most active and intelligent introducers of rare Conifers is now deservedly and indissolubly connected with this beautiful plant.

Gordon compares *C. Lawsoniana* with *C. Nootkaensis*, and justly, the plants bearing a considerable resemblance in a living state, and being with difficulty distinguished in the herbarium: *C. Lawsoniana* is, however, a much more feathery species, with more fan-like branches and slenderer branchlets; the leaves also are of a glossier green, and the cones quite different, being smaller, glaucous, with a transverse, flat, acute, horizontal or recurved plate across the boss, very different from the more conical horn of *C. Nootkaensis*. The genus *Chamæcyparis*, to which both these species have been referred, is utterly futile, its only character, that of the scales bearing two instead of many ovules as in most Cypresses, breaks down in the present species, whose ovules vary in number from two to four or even five or six.

DESCR. A large tree, said to attain a hundred feet in height, with a narrow pyramidal coma. *Branches* spreading, fan-like and feathery in aggregate. *Branchlets* tetragonous, slender. *Leaves* ovate or triangular-ovate, acute, appressed, convex on the back and there furnished with a rather obscure gland. *Cones* globular, one-fourth to one-third of an inch in diameter, of about eight decussating scales. *Scales* rhomboidal, with a flattened and transverse lamina at the back of the boss. *Ovules* two to four at the base of each scale. *Seeds* with two wings.—*J. D. H.*

Fig. 1. Branchlets and leaves. 2. Branch and male cone. 3 and 4. Stamens. 5. Female cone. 6 and 7. Seeds:—*all but fig.* 6 *magnified.*

5582.

W.Fitch del. et lith.

Vincent Brooks, Imp.

TAB. 5582.

WARSCEWIZELLA VELATA.

Veiled Warscewizella.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Perigonium carnoso-membranaceum, oblique insertum. *Labellum* brevissime unguiculatum, subquadratum, lobatum, basi cucullatâ columnam amplectens, cæterum planiusculum, basi lamelliferum. Mentum modicum. *Columna* semiteres, foveâ triangulâ angustâ sub rostello trilobo absconditâ, lobus rostelli medius prosiliens. *Anthera* depresso-mitrata, apiculata, valvis posticis persistentibus, bilocularis. *Pollinia* 2 depressa, oblonga, altè bipartita, in caudiculâ ligulatâ, apice hastatâ. *Glandula* rhombea. (*Character ex Reichenbach.*)

WARSCEWIZELLA *velata;* ebulbis, foliis (4–5) spithamæis pedunculis unifloris duplo longioribus, sepalis petalisque reflexis, sepalis lateralibus lanceolatis acutis dorsali majore, petalis lato-ovatis acutis, labello expanso subquinquelobo a basi brevissime unguiculato, callo semi-ovato variè dentato in laminam transcendente, carinis transcendentibus integerrimis; columnâ utrinque angulatâ.

WARSCEWIZELLA velata. *Rchb. fil. in Schl. Bot. Zeit.* 1865, *p.* 99.

ZYGOPETALUM velatum. *Idem in litt.*

The genera *Huntleya*, *Bollea*, *Warrea*, *Warscewizella*, *Pescatorea*, and *Zygopetalum*—to any one of which our present subject might put forth a claim to belong—form a sort of tangled skein, which neither a Lindley nor a Reichenbach have yet been able to unravel. I frequently pressed my late lamented friend, the former of the two botanists referred to, to undertake the examination of this difficult subject, but death snatched him away before he could bring himself to deal with a problem on which his views were constantly fluctuating, and I doubt whether the matter is even now ripe for solution. I find that Reichenbach, who saw the present plant in flower, regards it as identical with his own *W. velata*, but there is also a considerable resemblance to *W. marginata*, figured in 'Pescatorea' and in the Professor's own 'Xenia Orchidacea.'

For my own part, although I formerly had doubts as to

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whether *Huntleya* and *Warscewizella*—exactly alike as they are in habit—were really distinct in the structure of their flowers, I confess that at present I decidedly incline to the latter view; and if *Warscewizella* be maintained as a genus, there can, I think, be no doubt at all that the plant on the opposite page ought to belong to it.

But whatever the name it may ultimately bear, the plant itself is unquestionably well worthy of cultivation, than which nothing can be more simple; a moderately warm house and protection from the direct rays of the sun being all that is required. It flowers at all seasons, and is agreeably fragrant. It was discovered in New Granada by Mr. Blunt, who sent plants of it, and of many other varieties of the same species, to his employers, Messrs. H. Low and Co., of Clapton.

Descr. Whole plant scarcely a foot high, the *leaves* (there are no pseudobulbs) grow in tufts of (generally) five, the larger ones about a span long. *Peduncles* short, rising from among the leaves, one-flowered, each tuft of leaves usually producing about four, of which not more than one or (at most) two are in perfection at the same time. *Petiole* about three inches long. *Sepals* and *petals* an inch long, yellowish-white, curved backwards, acute, the lateral sepals being much narrower than the upper, which is itself about equal to the broadly-ovate petals. *Lip* very large, spread wide open, but resting on a very short mentum, generally of the same hue as the petals, but with a crimson margin and some deep-purple streaks on its disk; it is slightly five-lobed and furnished at its base with a strong callosity, resembling a semicircular row of teeth, of which there are five or seven, all running forwards into as many furrows. *Column* angled on each side.—*J. B.*

Fig. 1. Front view of lip. 2. Column. 3. Pollen-masses.

5583.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5583.

BEGONIA GERANIOIDES.

Geranium-leaved Begonia.

Nat. Ord. BEGONIACEÆ.—MONŒCIA POLYANDRIA.

Gen. Char. (*Vide supra,* TAB. 4172.)

BEGONIA (§ AUGUSTIA) *geranioides;* herbacea, subacaulis, laxe pilosa, foliis orbiculari-reniformibus obscure 7–9-lobis, lobis obtuse crenatis, stipulis parvis ovato-lanceolatis ciliatis, cymis paniculatis multifloris, bracteis ovatis oblongisve obtusis ciliatis, floribus albis 1 poll. diametro, *masc.* sepalis petalisque 2 fere orbicularibus, staminibus liberis, antheris filamento æquilongis; *fœm.* sepalis 2, petalis 3 masculinis consimilibus, ovario 3-ptero, alis angulatis, placentis integris, stylis apice auriculato-2-lobis, extremitatibus stigmatum tortis.

The genus *Begonia*, though abounding in both tropical Asia and America, is comparatively rare in Africa. In A. De Candolle's monograph of the genus (Prodr. vol. xv.), out of upwards of three hundred described species, only about five are natives of continental Africa, and though a few have subsequently been added in this Magazine (*B. baccata*, Tab. 5554, *B. Mannii*, Tab. 5434), and others, still undescribed, are contained in the herbarium, the total number is as yet under a dozen. The present species, which was imported from Port Natal by Messrs. Backhouse, of York, and sent by them to the Magazine, belongs to the same section with all the other South African species, viz. *B. Dregei* (Tab. nostr. 3720), *B. Natalensis* (Tab. nostr. 4841), and the little-known *B. suffruticosa:* all inhabit the eastern coast and mountains. *B. geranioides* is a very elegant species, and forms a very pretty greenhouse ornament.

DESCR. A rather small species; the plant sent by Messrs. Backhouse is ten to fourteen inches high, throwing up numerous flowering stems and a crown of radical leaves. *Radical leaves* three to five inches in diameter, orbicular-reniform, obscurely seven to nine-lobed, bilobed at the base; *lobes* very

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obtusely crenate, deep-green above, pale beneath, with a few scattered, weak, paleaceous hairs; *nerves* pale-reddish; *petioles* stout, bright-red; *stipules* ovate-lanceolate, ciliate, entire or serrate above. *Scapes* numerous, trichotomously branched, stout, many-flowered; *bracts* broadly ovate, obtuse, toothed above, ciliate. *Flowers* nodding, an inch in diameter, pure white. *Male fl.: Sepals* two, nearly orbicular. *Petals* two, similar. *Stamens* short; *filaments* free, as long as the oblong anthers. *Female fl.: Sepals* two and *petals* three, like those of the male. *Ovary* three-winged, three-celled; *wings* two projecting in an obtuse angle, the other more obtuse. *Placentæ* entire, covered with ovules. *Style* cleft to the middle into three, reniform, papillose stigmas, whose extremities are twisted.—*J. D. H.*

Fig. 1. Stamen. 2. Ovary, style, and stigmas. 3. Transverse section of ovary:—*all magnified.*

5584.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5584.

MYRSIPHYLLUM ASPARAGOIDES.

Asparagus-leaved Myrsiphyllum.

Nat. Ord. LILIACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. Perianthium corollinum, 6-partitum, æquale, campanulato-connivens, apice patens. *Stamina* 6, basi laciniarum affixa, filamentis subulatis; *antheræ* peltatæ, erectæ. *Ovarium* breviter stipitatum, 3-loculare; *styli* 3, stricti, contigui, stigmatibus simplicibus; *ovula* in loculis 2, superposita. *Bacca* globosa, 3-locularis, loculis 2-spermis. *Semina* angulato-subglobosa, testa coriacea atra, umbilico ventrali punctiformi.—Suffrutex *gracilis*, Capensis, *glaber*. Folia *breviter petiolata, ovato-lanceolata, nervosa*. Flores *ad basin folii ex axilla squamulæ scariosæ gemini v. terni, pedicellis nutantibus, medio articulatis. Endl.*

MYRSIPHYLLUM *asparagoides;* gracillimum, ramis flexuosis, foliis ovato-oblongis ovato-cordatisve acutis nitidis, floribus parvis viridibus nutantibus.

MYRSIPHYLLUM angustifolium. *Mill. Dict. n* 2. *Willd. Sp. Pl. l.c. Ait. Hort. Kew. v.* 1. *p.* 490.

MYRSIPHYLLUM asparagoides. *Willd. in Berl. Mag. v.* 2. *p.* 25.

MEDEOLA asparagoides. *Willd. Sp. Pl. v.* 2. *p.* 270. *Redouté, Liliac. t.* 442.

DRACÆNA Medeoloides. *Linn. fil. Suppl.* 203.

ASPARAGUS Medeoloides. *Thunb. Prodr. Fl. Cap.* 66.

Myrsiphyllum asparagoides, though hitherto never figured in this country, was introduced into England so early as 1702, by the Duchess of Beaufort. Although long since almost gone out of cultivation, we have no hesitation in calling attention to it, as one of the most elegant greenhouse climbers that can well be found; nothing, indeed, can exceed the feathery lightness of the plant when well grown and flowered; and whether on account of its graceful habit, its flowering in mid-winter, the uniformity of its bright-green foliage, and perfume of its pearly flowers, it is one of the plants best suited for table decoration and ornamentation generally hitherto introduced. It is a native of various parts of the Cape of Good Hope colony, whence the plants here figured were sent by Mr. Cooper, and contributed by our friend W. Wilson Saunders, Esq., F.R.S. It flowered at Kew from January to March. The only other described species, *M. angustifolia*, appears to me not even to rank as a variety, the leaves being most variable on the same specimen.

DESCR. A slender bright-green greenhouse creeper. *Stems* much branched, flexuose. *Leaves* (flattened branches) alternate, and, like those of *Ruscus*, inserted in the axil of a minute scale, ovate ovate-cordate or ovate-lanceolate, acute, quite entire, glabrous on both surfaces. *Flowers* solitary or in pairs or threes in the axils of the leaves, pendulous on slender, articulated, short pedicels, one-third of an inch long, pearly-white or greenish. Segments of *perianth* linear, obtuse, reflexed. *Stamens* erect, with small orange-red anthers. *Ovary* shortly stipitate, three-celled, with two superposed ovules in each cell. *Berry* globose, fleshy, six-seeded.—*J. D. H.*

Fig. 1. Branch and leaf. 2. Ditto and flowers. 3. Petal and stamen. 4. Germen. 5. Transverse section of ditto:—*all magnified.*

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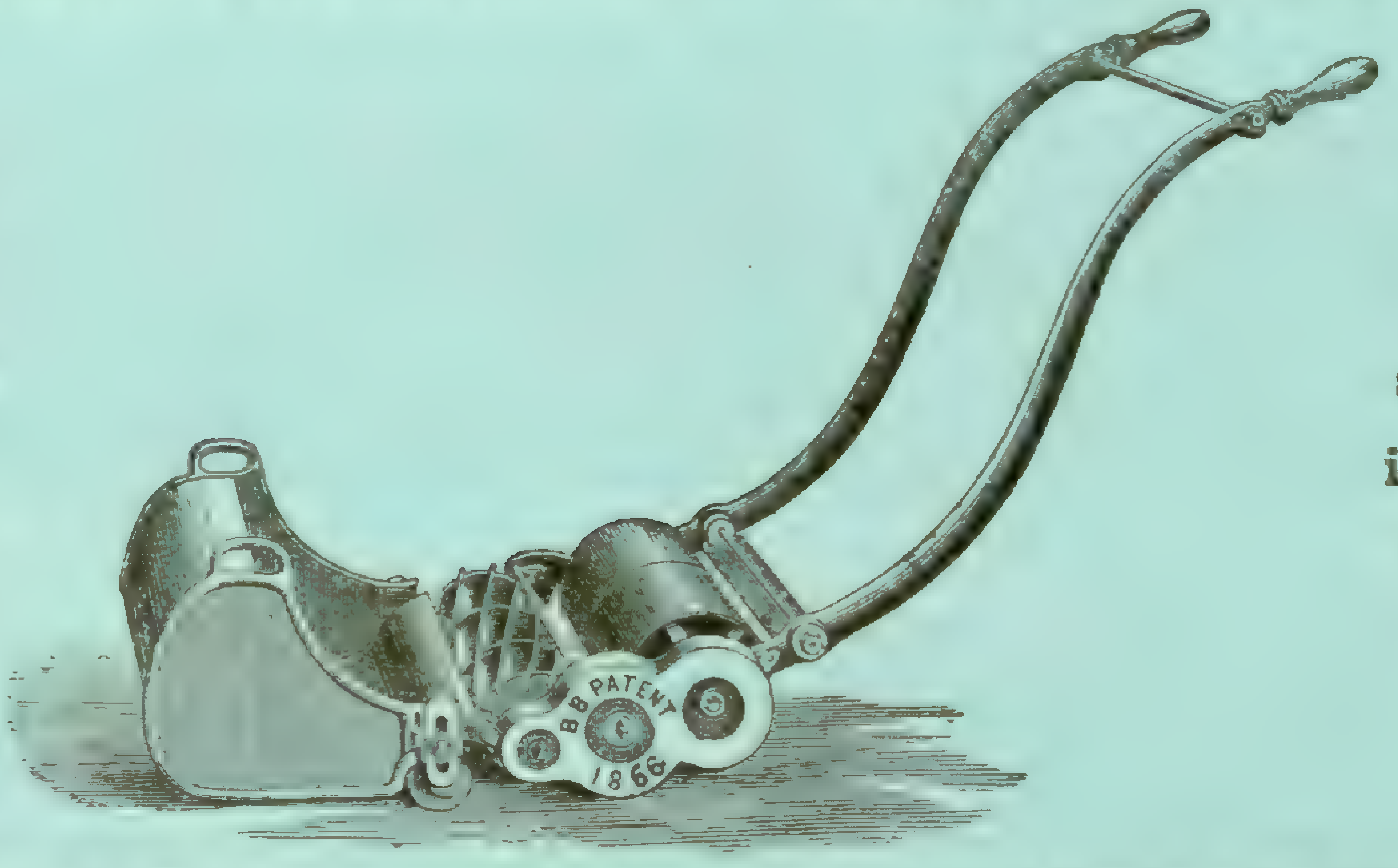

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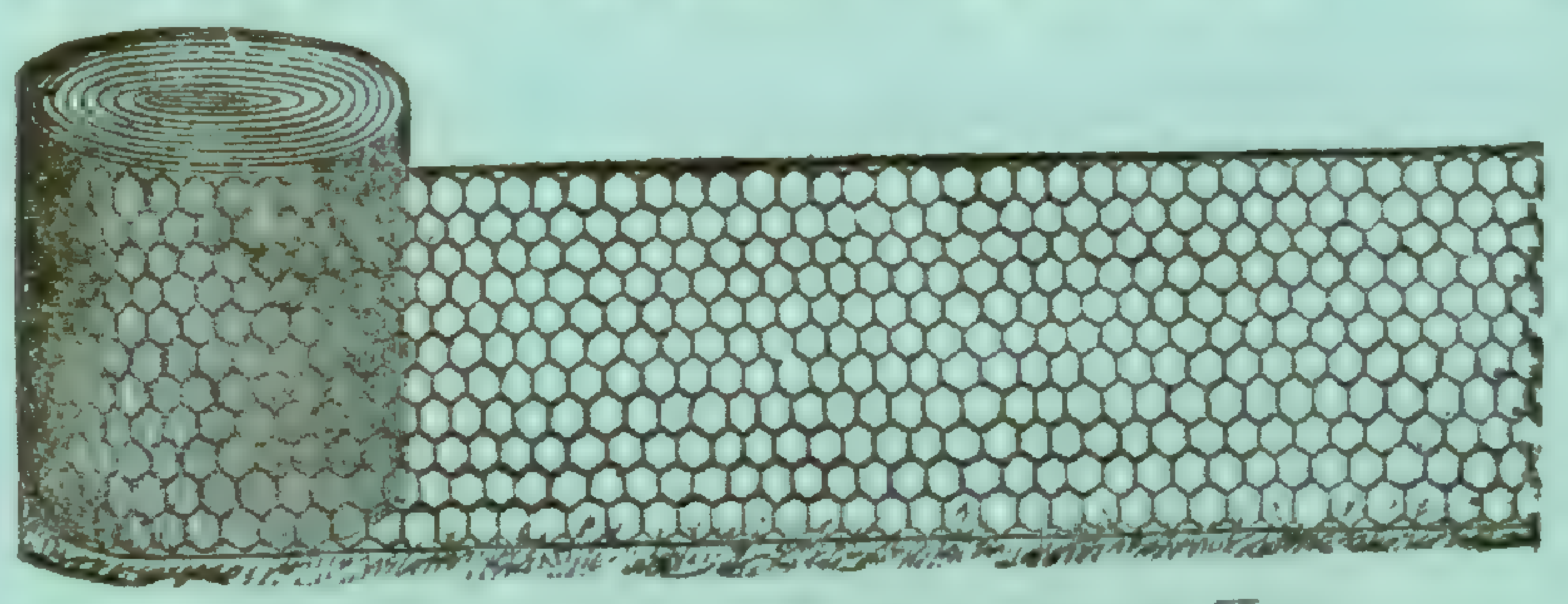

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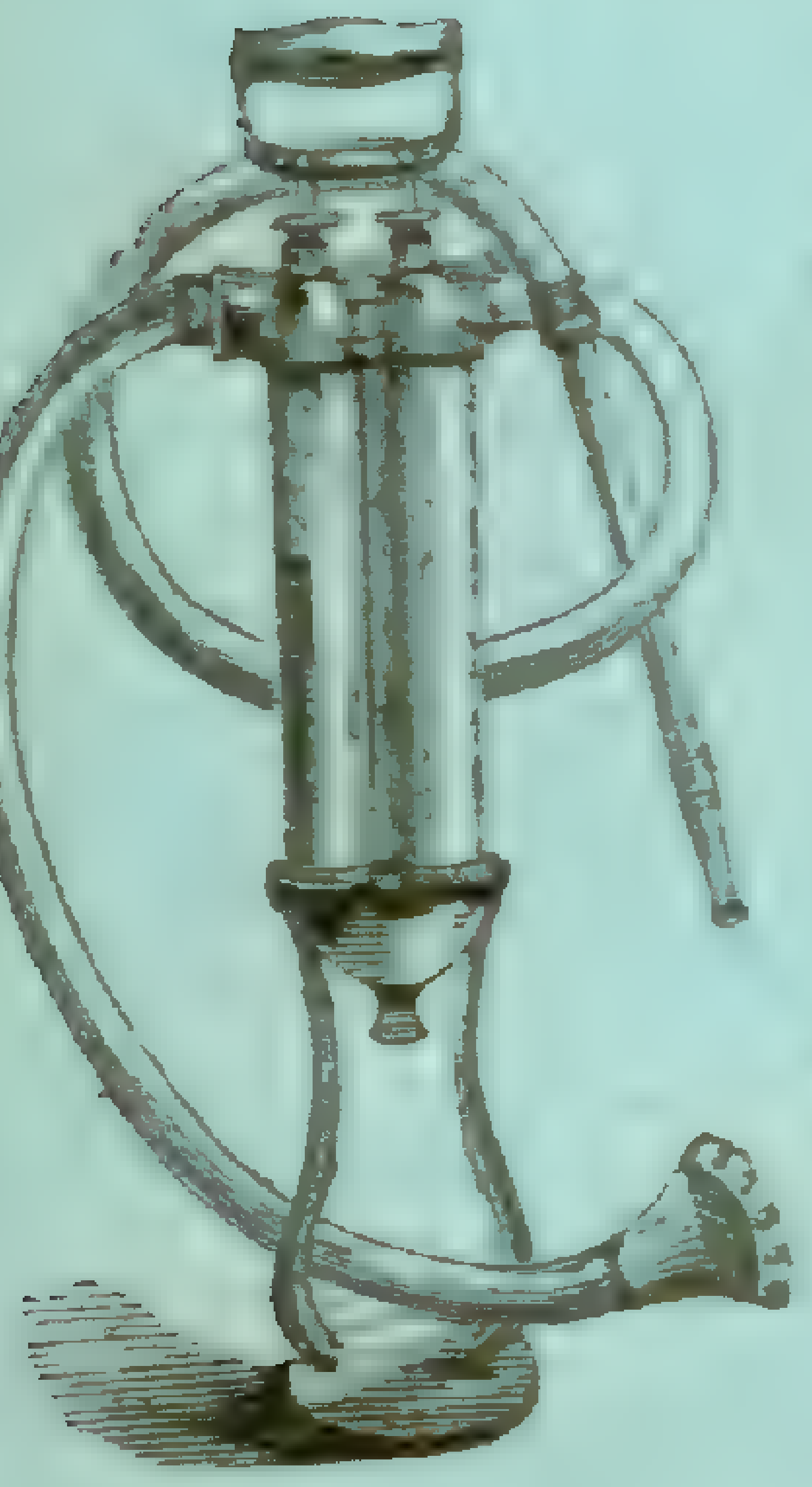

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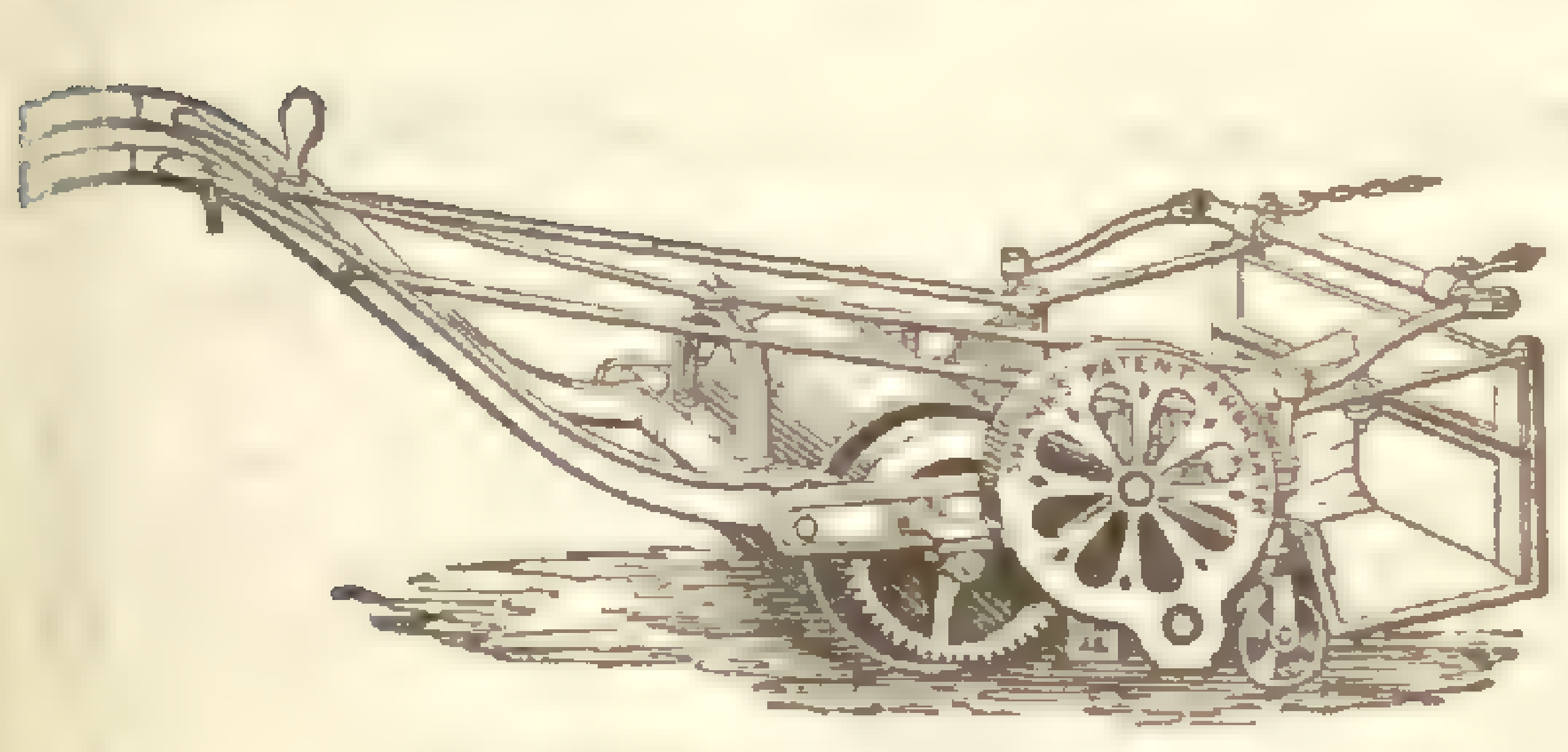

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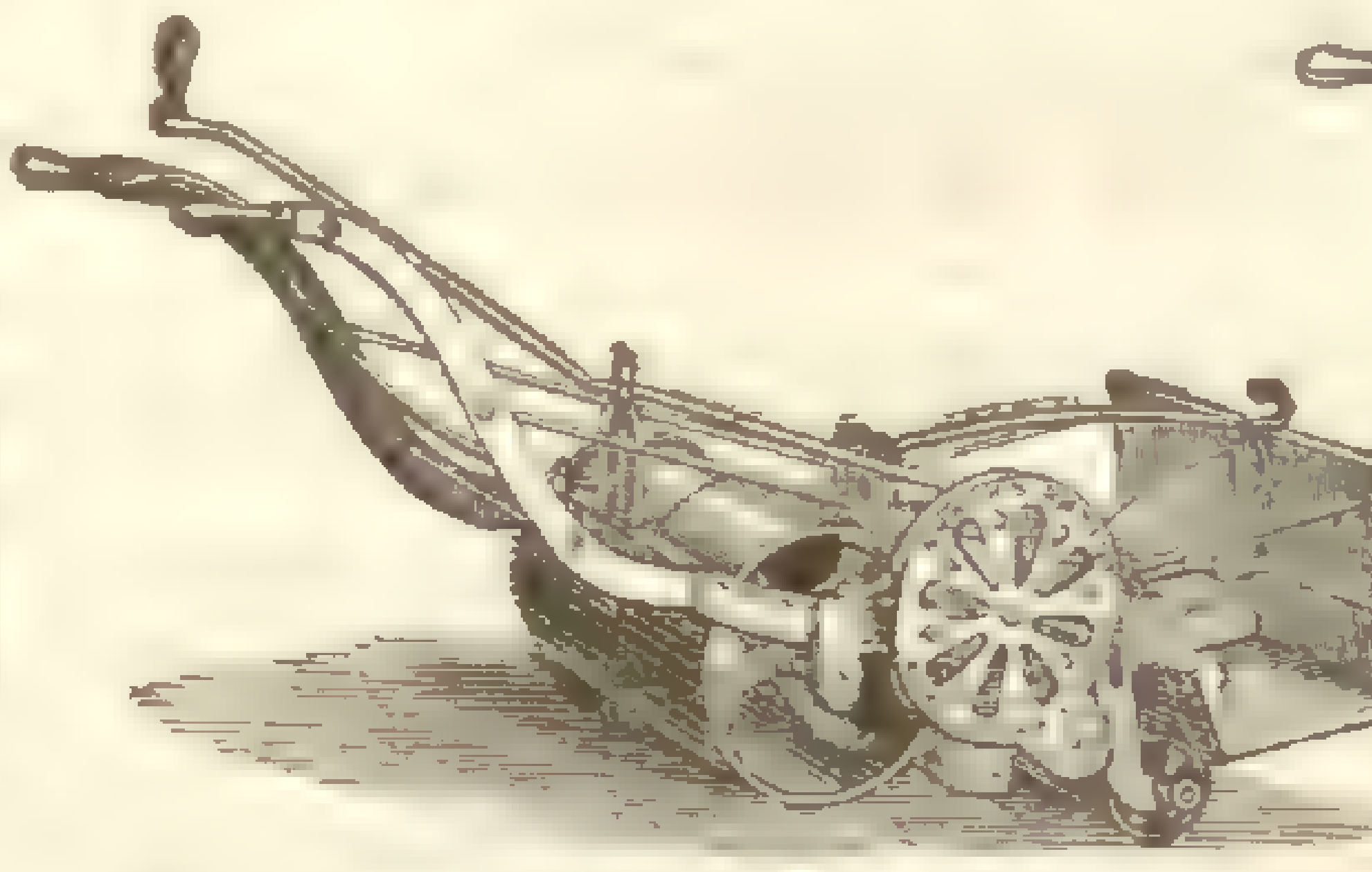

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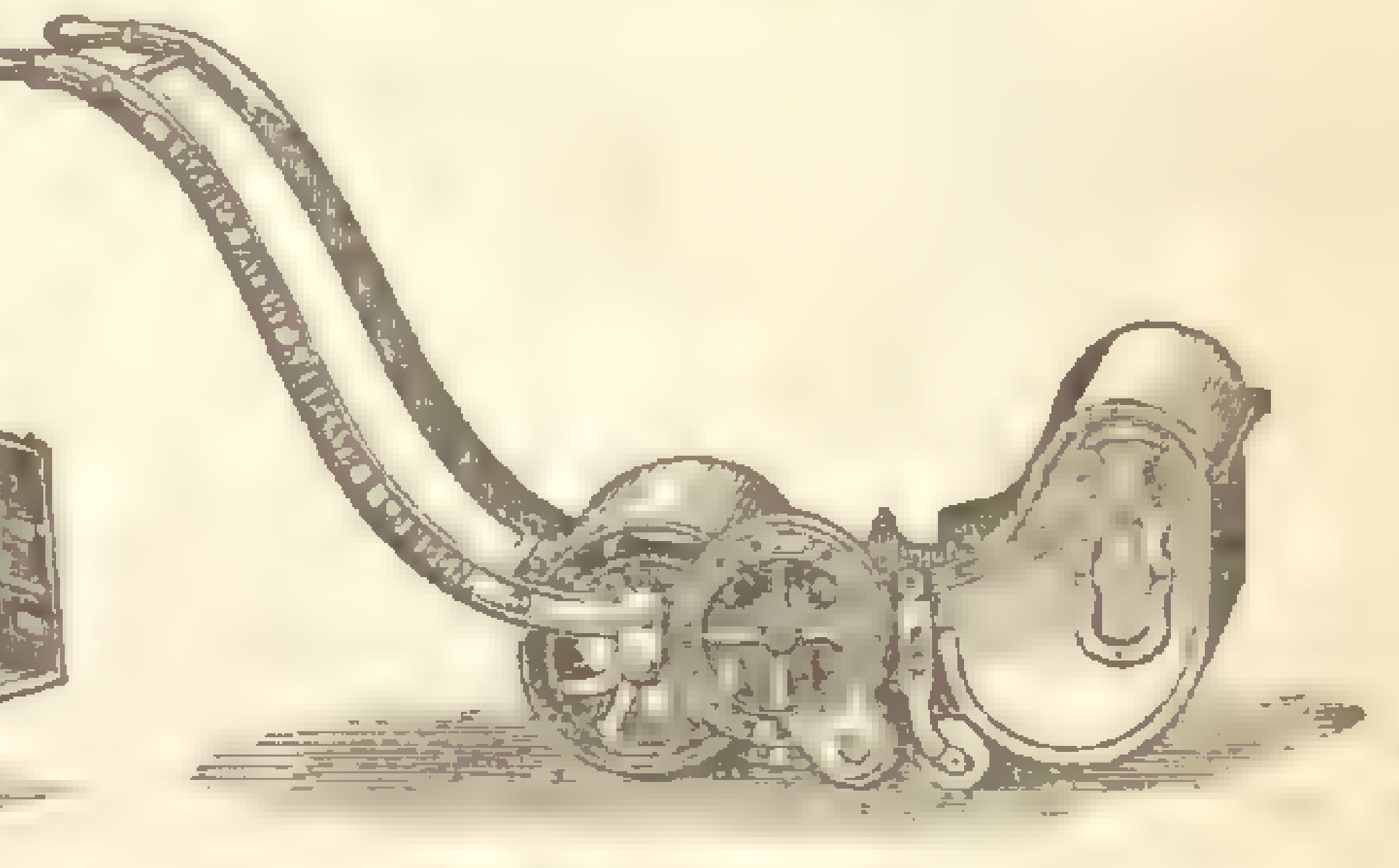

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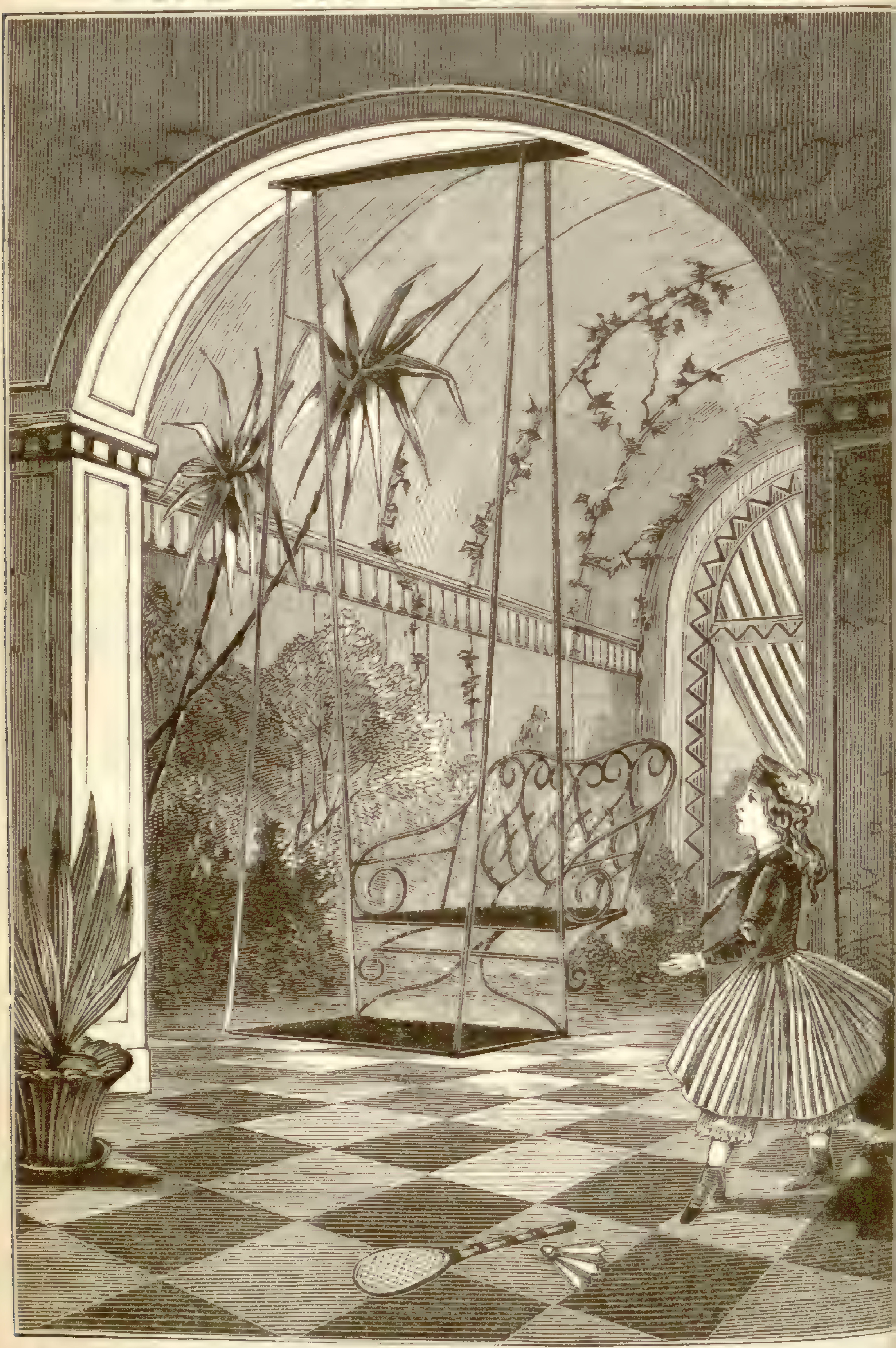

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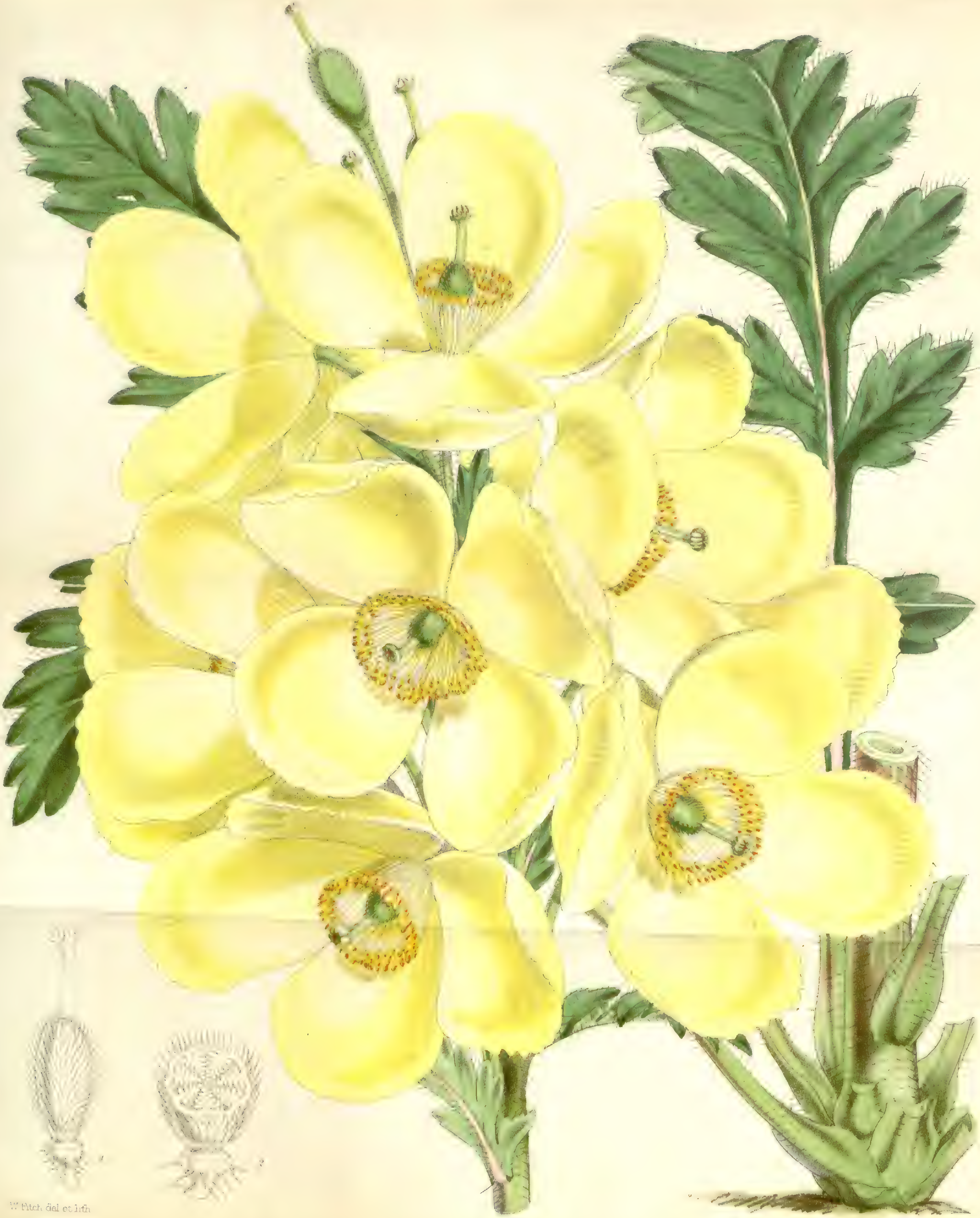

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Tab. 5585.

MECONOPSIS Nipalensis, *DC.*

Nepalese Meconopsis.

Nat. Ord. Papaveraceæ.—Polyandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5456.)

Meconopsis *Nipalensis;* herba elata, robusta, tota setis patentibus crinita pubeque stellata siccitate aurea obtecta, foliis caulinis sessilibus linearibus lineari-oblanceolatisve sinuato-lobatis, radicalibus petiolatis lineari-spathulatis subpinnatifidis, floribus racemosis aureis, pedicellis elongatis patentibus, capsula 8–10-valvi setis appressis pubeque stellata dense obsita.

Meconopsis Nipalensis. *DC. Prod. v.* 1. *p.* 121. *Hook. f. et Thoms. Fl. Ind. v.* 1. *p.* 253. *Hook. fil. Ill. Pl. Himal. t.* ix.

Papaver paniculatum. *Don, Prod. Fl. Nep. p.* 197. *Wall. Cat. t.* 8123 a.

This noble plant was originally discovered by the celebrated Dr. Wallich in the mountains of Nepal, and more recently collected by myself abundantly in the central dampest regions of the Sikkim Himalaya, where at elevations of 10–11,000 feet above the level of the sea it often ornaments the rank herbage that skirts the pine forest. A more stately and beautiful plant can hardly be imagined, except the Hollyhock, which it somewhat resembles in miniature. The genus *Meconopsis* abounds in the Himalaya, where the *M. aculeata*, Tab. 5456, and *M. Wallichii*, Tab. 4668, were also procured, and from whence other beautiful species remain to be imported.

For the specimen here figured I am indebted to those indefatigable and skilful cultivators, Messrs. Backhouse, of York, who flowered it in July, 1863.

Descr. A tall, robust, simple or sparingly branched *herb*, three to five feet high, biennial (?), full of orange-yellow sap. *Stem* often one to two inches in diameter at the base, covered with spreading stiff hairs and shorter stellate down in more or less abundance. *Radical leaves* petioled, half to one and a half foot long, linear-spathulate or oblong-lanceolate, sinuate-pinnatifid; *cauline* sessile. *Raceme* erect, lax-flowered, one to two feet high; *pedicels* distant, the lower sometimes two-flowered. *Flowers* pale-golden or sulphur-yellow, two to three inches in diameter. *Sepals* an inch long. *Petals* broadly obovate. *Stamens* with orange anthers. *Ovary* oblong, covered with erect yellow bristles; *style* columnar; *stigma* six- to ten-lobed; *placentæ* six to ten. *Capsule* subclavate, on a stiff erect pedicel, densely strigose with yellow hairs. *Seeds* with a cancellated spongy testa.—*J. D. H.*

Fig. 1. Ovary. 2. Transverse section of ditto:—*both magnified.*

5586

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Tab. 5586.

POLYSTACHYA pubescens.

Hairy-stemmed Polystachya.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra,* Tab. 4161.)

Polystachya *pubescens;* pseudobulbis fusiformibus 2–3-phyllis, foliis oblongo-lanceolatis subacutis spicis simplicibus teretibus erectis puberulis multifloris duplo brevioribus, floribus resupinatis (in genere majoribus), sepalis liberis ovatis concavis, petalis paulo minoribus obovatis obtusissimis, labello carinato trilobo sepalis vix æquali laciniis lateralibus rotundatis, laciniâ mediâ ovatâ ad apicem paululum deflexâ callo triangulari piloso versus basin, columna basi paulo producta.

Epiphora pubescens. *Lindl. Comp. Bot. Mag. v.* 2. *p.* 201.

Polystachya pubescens. *Reichenbach fil. in Walpers' Ann. v.* 6. *p.* 643.

This is the prettiest species of a very unattractive genus. Its flowers are larger than those of any *Polystachya* hitherto discovered,—*P. grandiflora*, otherwise very different, alone excepted,—and they are of a brighter colour than those of *P. bracteosa*, while the tall, upright, unbranched, many-flowered spikes are quite peculiar.

I have little doubt that this is the *Epiphora pubescens* described by Lindley twenty-five years ago, although the form of the sepals varies from that of his diagnosis, for the term "*acutissima*" can scarcely be applied to those of the figure. But we are now accustomed to look for these little divergences, especially when a species—as in the present instance—occupies a long extent of country; for it was found first in Caffraria by Burchell, then in Delagoa Bay by Drége, near Somerset by Mrs. Barber, and on the eastern frontier of our South African possessions by Mr. Hutton. It flowered at Kew three years ago.

Dr. Lindley long since separated this plant—though with much hesitation—from *Polystachya* and founded upon it his genus *Epiphora*. But more recent discoveries would seem to show that the two genera are not really distinct, and I am glad to find that Professor Reichenbach is quite of this opinion.

Descr. Whole *plant* less than a foot high. *Pseudobulbs* distaff-shaped, more than an inch long, clothed at the base with large sheathing bracts that speedily become brown, and bearing two or three oblong-lanceolate *leaves*, which are from three to five inches long, leathery, and bluntly acute at their extremities. *Flower-spikes* twice the length of the leaves, terete, hairy, perfectly erect and many-flowered. *Bracts* triangular, concave, exceedingly acute, not half the length of the ovary, and standing out at right angles to the stem. *Flowers* resupinate, closely massed together, of a bright golden-yellow. *Sepals* hollow, ovate, rather blunt, streaked with red lines up the centre (inside). *Petals* rather less than the sepals, obovate, very blunt. *Lip* rather shorter than the sepals, deeply three-lobed, the lateral lobes stretched a little forwards and rounded, the middle lobe ovate, very acute, and with its apex slightly bent down, at base of lip there is a triangular callosity, covered with small dark hairs; there are, moreover, a few red streaks on its under surface. *Column* very short, semiterete, and most exceedingly clavate.—*J. B.*

Fig. 1. Flower. 2. Lip, spread flat. 3. Pollen-masses:—*magnified.*

5587.

TAB. 5587.

LOBELIA NICOTIANÆFOLIA.

Tobacco-leaved Lobelia.

Nat. Ord. LOBELIACEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calyx 5-lobus, tubo obconico ovoideo v. hemisphærico. *Corolla* superne longitudinaliter fissa, 2-labiata, tubo cylindrico v. infundibuliformi recto; labio superiore sæpius minore et erecto, inferiore sæpius patente latiore 3-fido v. rarius 3-dentato. *Antheræ* 2 inferiores v. rarius omnes apice barbatæ. *Ovarium* inferum v. ½-superum, rarissime subliberum.—Herbæ *v. rarius* suffrutices. Folia *alterna.* Flores *sæpius racemoso-spicatæ; pedicellis axillaribus.* Corolla *cærulea alba violacea rubra v. ex rubro aurea. DC.*

LOBELIA *nicotianæfolia;* elata, robusta, sæpe ramosa, pubescens v. glabrata, foliis lanceolatis breviter petiolatis basi angustatis acuminatis denticulatis, racemo basi foliaceo composito, ramis pyramidatis, bracteis acuminatis glanduloso-dentatis, lobis calycinis tubo multoties longioribus serratis, corollæ labiis deflexis acuminatis, labii superioris lobis anguste lineari-lanceolatis labium inferius 3-lobum æquantibus.

LOBELIA nicotianæfolia. *Heyne ex Ræm. et Sch. Syst. v.* 5. *p.* 47. *Roxb. Fl. Ind. v.* 1. *p.* 506. *DC. Prod. v.* 7. *p.* 381. *Wall. Cat. p.* 1304. *Wight, Ill. Pl. Ind. Or. t.* 135.

LOBELIA excelsa. *Lesch. ex Roxb. Fl. Ind. Ed. Wall. v.* 2. *p.* 114. *DC. Prodr. v.* 7. *p.* 381. *Wall. Cat. n.* 1305. *Thwaites, Enum. Pl. Zeylan. p.* 170. *Wight, Ill. Pl. Ind. Or. t.* 1173, 4.

LOBELIA aromatica. *Moon, Cat. Wight, Ic. t.* 1172.

RAPUNTIUM Leschenaultianum *et* nicotianæfolium. *Presl, Prodr. Lobel. p.* 24.

A stately plant, native of the Neilgherry and other mountains of the Indian peninsula and of Ceylon, for seeds of which the Royal Gardens are indebted to the late Mr. A. Black, Superintendent of the Botanical Gardens of Bangalore. It flowered in the temperate house in January of the present year, and attracted much attention for its striking habit and great height, attaining six feet and bearing a profusion of pale lilac blossoms. In its native country, it is said to grow ten and even twelve feet high. I follow Mr. Thwaites in re-

ducing the *L. excelsa* and *nicotianæfolia* to one, but maintain the latter name as being the first published, viz. by Rœmer and Schultes in 1819, whilst that of *excelsa* did not appear till 1824, in Wallich's edition of Roxburgh's 'Flora Indica.'

Descr. A tall, stout, herbaceous plant, six to twelve feet high, glabrous, or more or less pubescent, or even tomentose on the leaves below. *Stem* at the base as thick as the arm, simple or branched. *Leaves* narrow lanceolate, one to two feet long, acuminate, denticulate, more or less narrowed into a petiole; *veins* prominent beneath. *Raceme* simple or compound, the branches a foot and upwards long, densely covered with close-set flowers forming pyramidal summits of a pale lilac colour. *Bracts* acuminate, toothed, the lower foliaceous. *Pedicels* slender. *Calyx-tube* broadly hemispherical, five-ribbed; *lobes* lanceolate, longer than the tube, serrate. *Corolla* an inch long, upper lip of two linear acuminate pendulous lobes, as long as the lower, which is three-cleft to the middle, the outer lobes linear, the middle ovate-lanceolate, and all acuminate. *Anthers* deeply blue, two of them bearded. *Stigma* two-lobed—*J. D. H.*

Fig. 1. Calyx, style, and stigma,—*magnified.*

5588.

W. Fitch, del. et Lith.

Vincent Brooks, Imp.

Tab. 5588.

ANCYLOGYNE LONGIFLORA.

Long-flowered Ancylogyne.

Nat. Ord. Acanthaceæ.—Diandria Monogynia.

Gen. Char. Calyx 5-partitus, coloratus, laciniis subæqualibus v. inæqualibus. *Corolla* tubulosa, limbo brevi obliquo subregulariter 5-fido, laciniis patentibus v. recurvis. *Stamina* fertilia 2, exserta, cum 2 breviora ananthera; *antheræ* oblongæ, loculis parallelis hirtis ciliatisve basi calcaratis, calcaribus divergentibus. *Ovarium* 2-loculare; *stylus* filiformis, staminibus longior, apice uncinatus, stigmate bifido, lobo altero dentiformi v. deficiente; *ovula* 8. *Capsula* 4-gona, cuspidata, 8-sperma, septo crasso. *Semina* suborbicularia compressa, nitida, retinaculis cochleariformibus suffulta.—Herbæ *Americæ tropicæ, caule 4-gono.* Folia *glabra, raphidibus farcta.* Spicæ *v.* racemi *terminales, compositi.* Flores *sæpe speciosi, 2-bracteati.*

Ancylogyne *longiflora;* foliis petiolatis ovato-oblongis obovato-lanceolatisve acuminatis subsinuato-dentatis, panicula nutante, calycis laciniis subulato-lanceolatis longe acuminatis corollæ tubo 2-pollicari tertiam partem æquantibus, corollæ tubo lento curvo supra medium modice inflato, læte purpureo, lobis brevibus rotundatis recurvis, filamentis elongatis filiformibus longe pectinato-ciliatis, pilis recurvis.

A most beautiful plant, with something of the inflorescence of *Russellia juncea*, introduced by Messrs. Veitch and Sons from Guayaquil, where it was discovered by their intelligent and most active collector, Mr. Pierce. It is undoubtedly one of the finest tropical *Acanthaceæ* ever introduced into this country, and cannot fail to be a most important accession to our stoves. It flowered with Messrs. Veitch in April of the present year.

The genus *Ancylogyne* of Nees, as previously known, consisted of a few Peruvian and Brazilian plants, none of which had hitherto been in cultivation.

Descr. A glabrous, apparently suffruticose plant. *Stems* four-angled, and leaves glabrous or minutely pubescent. *Leaves* four to ten inches long, petioled, ovate-oblong or obovate-lanceolate, with long acuminate points, obscurely sinu-

ate or subserrate. *Flowers* arranged in a drooping elongated branched panicle, with subulate bracts at all the axils, one-eighth to one-fourth of an inch long, shortly pedicelled. *Calyx-lobes* one-third to one and a half inch long, nearly equal, subulate-lanceolate, purple. *Corolla* two inches long, nearly straight, cylindrical, and tubular, rather inflated above the summit of the calyx-lobes, bright vinous-purple; mouth oblique; lobes short, rounded, recurved. *Stamens* four, two fertile; *filaments* very slender, exserted, garnished throughout their length with two series of long recurved hairs; *sterile stamens* with shorter filaments. *Anthers* bright-yellow, the edge of the cells ciliated; *spurs* short, projecting. *Ovary* with eight ovules.—*J. D. H.*

Fig. 1. Base of corolla and stamens. 2. Summit of filaments and anther. 3. Ovary. 4. Longitudinal section of ditto:—*all magnified.*

5389.

W. Fitch, del. et lith.
Vincent Brooks, Imp.

TAB. 5589.

ANGRÆCUM CHAILLUANUM.

M. Du Chaillu's Angræcum.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Perianthium patens. *Sepala* et *petala* subæqualia, libera. *Labellum* sessile, cum basi columnæ continuum, carnosum, indivisum, petalis consimile v. iis latius; *calcare* recto v. flexuoso cornuto, sæpius subcylindraceo, perianthio æquilongo v. multo longiore, raro obconico. *Columna* nana, subteres, raro elongata et semiteres. *Anthera* 2-locularis, truncata. *Pollinia* 2, 2-partibilia; *caudicula* brevi v. elongata angusta, glandula triangulari v. lanceolata.—Epiphytæ *caulescentes*. Folia *coriacea, ligulata, apice obliqua v. 2-loba.* Flores *solitarii v. racemosi, albi virescentes v. citrini, sæpe herbacei.*

ANGRÆCUM *Chailluanum;* foliis valde coriaceis ligulatis 4–6 poll. longis 1½ poll. latis apice 2-lobis, lobis valde inæqualibus rotundatis, marginibus undulatis, racemis 6–12-floris, bracteis amplis late ovatis subacutis acuminatisve, floribus ex albo virescentibus, sepalis petalis et labello consimilibus 1½ poll. longis anguste subulato-lanceolatis recurvis, calcare tenui elongato 3–5-pollicari, rostello valde elongato.

This very distinct *Angræcum* was sent from the Gaboon to the Royal Gardens, by M. Du Chaillu, on his return from his last adventurous journey in Western Africa, and flowered in May of the present year. The same plant was also sent by M. Gustav Mann (collector for the Royal Gardens) from the Nun river, on the same coast, but has not flowered. It was named *A. arcuatum* by the late Dr. Lindley, in the Hookerian Herbarium, but differs much from that South African species in the greater size, large flowers, longer, more acuminate sepals and petals, the spur several times longer than the perianth, and in the longer leaves, with undulated margins. I have given this the name of its celebrated discoverer.

DESCR. A small, stout epiphyte. *Stems* four to ten inches long, as thick as the little finger. *Leaves* loosely imbricate, four to six inches long, an inch and a half broad, leathery, shrivelling much when dry, very unequally two-lobed at the apex; the *lobes* rounded, margins undulated, dark-green. *Racemes* drooping, four to eight inches long, lax-flowered. *Flowers* white, with a pale-greenish tinge. *Bracts* broadly ovate or boat-shaped, subacute or acuminate, brown. *Pedicel* with *ovary* an inch and a half long. *Petals, sepals* and *lip* all of equal length and similar, narrow lanceolate-subulate, with slender acuminate points, recurved, about an inch and a half long. *Spur* very long, slender, flexuous, twice or thrice as long as the perianth, pale yellow-green. *Column* short and stout. *Rostellum* much produced into a subulate beak. *Anther-case* with a projecting, obtuse beak, much shorter than the rostellum. *Pollinia* small.—*J. D. H.*

Fig. 1. Column and lip. 2. Column, anther-case, and rostellum. 3. Transverse section of ovary. 4. Upper view of column, anther-case, and rostellum. 5. Pollinia:—*all magnified.*

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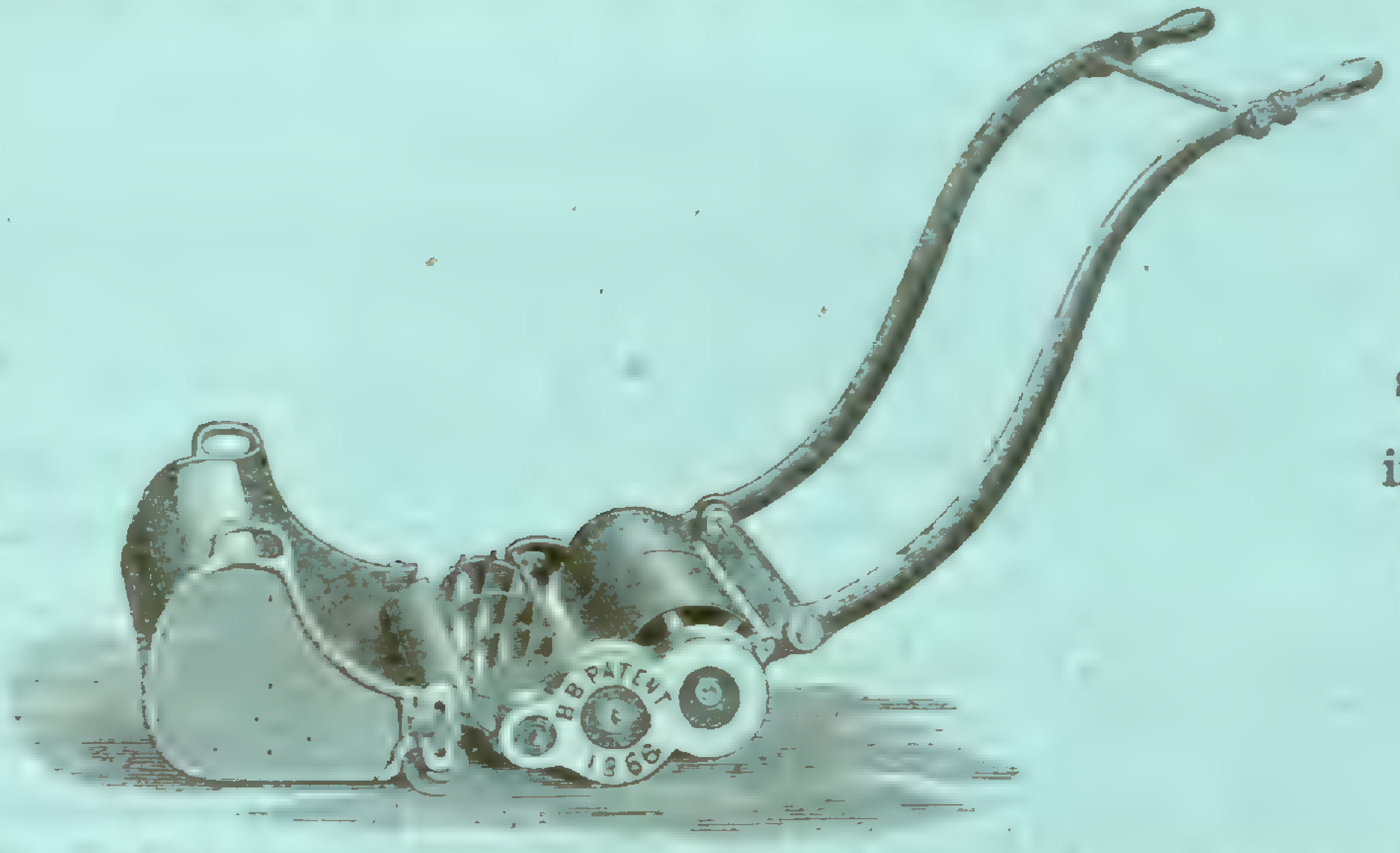

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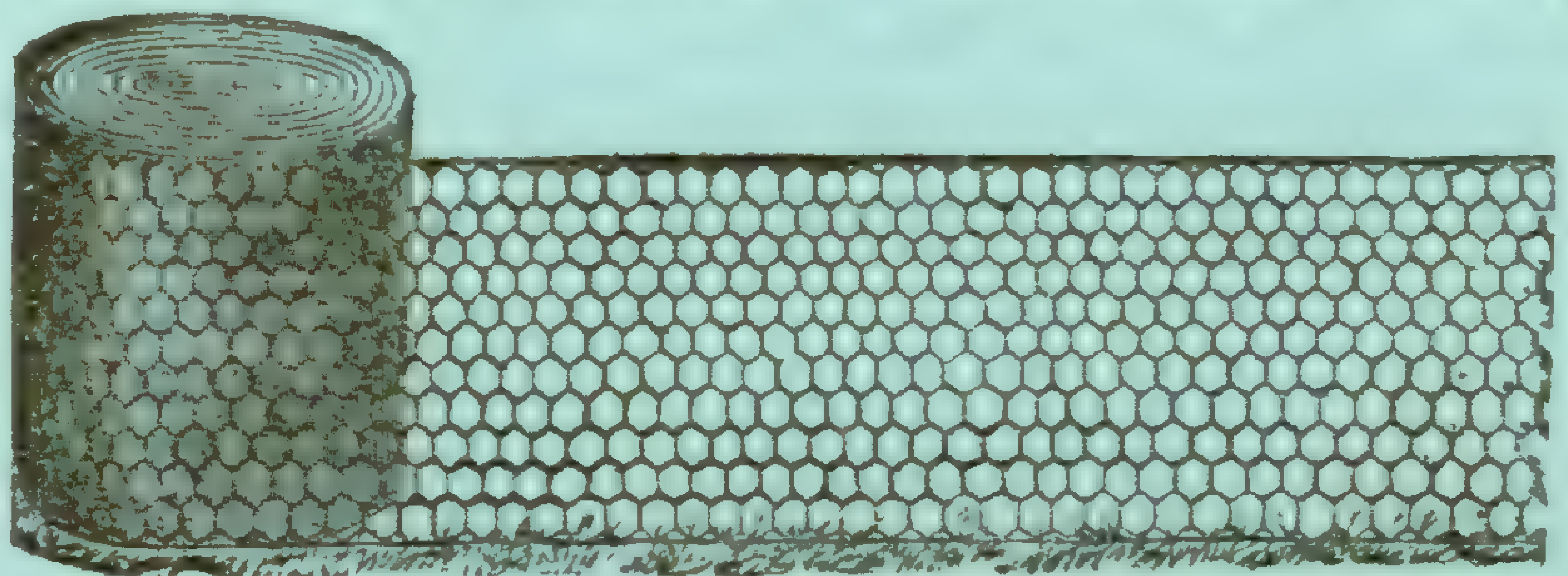

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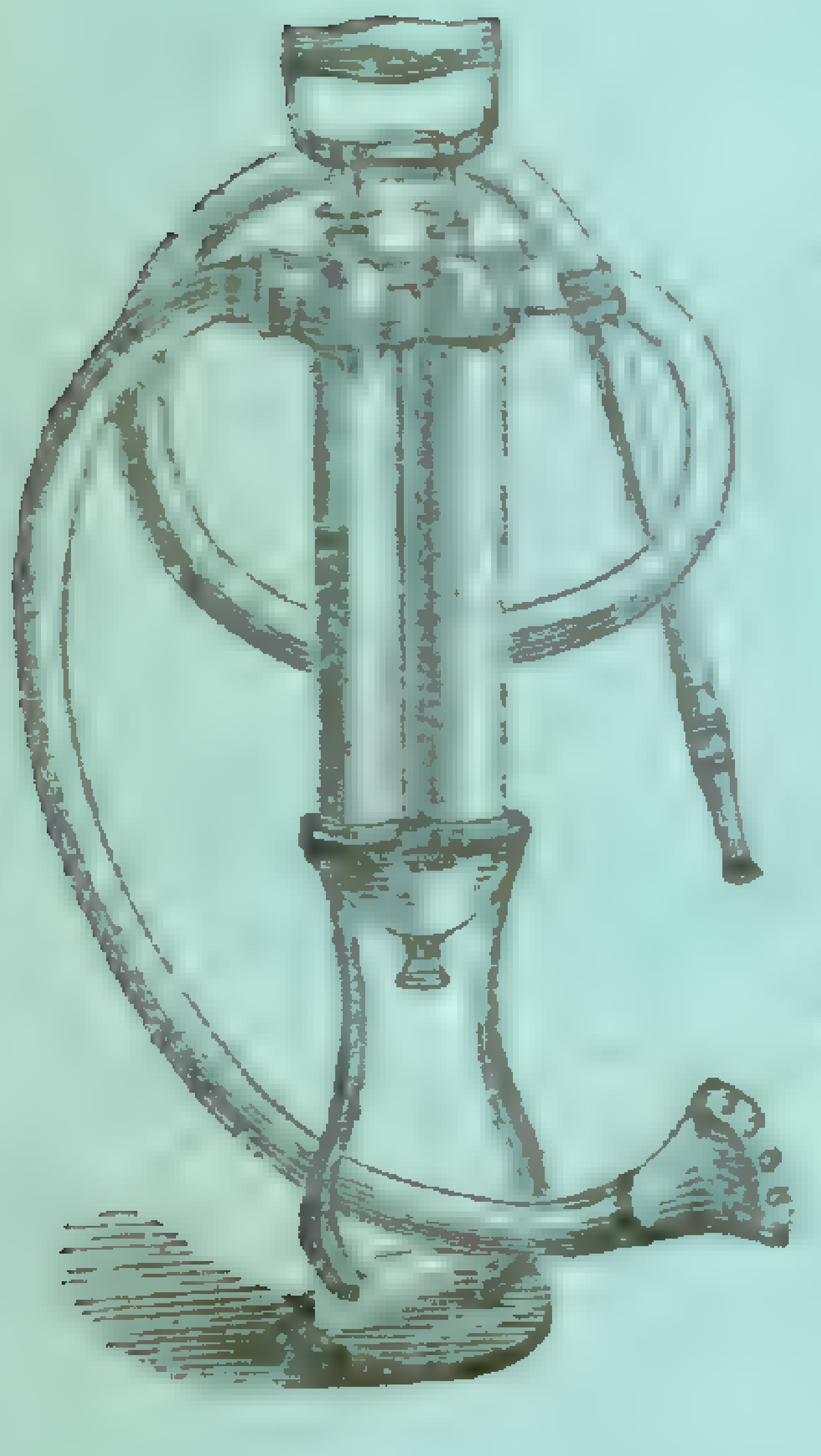

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LONDON: ALEXANDER STRAHAN.

5590.

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TAB. 5590.

KLEINIA FULGENS.

Brilliant-flowered Kleinia.

Nat. Ord. COMPOSITÆ.—SYNGENESIA ÆQUALIS.

Gen. Char. Capitulum multiflorum, eradiatum, fere semper homogamum, floribus omnibus tubulosis 5-dentatis. *Receptaculum* planum. *Involucrum* 1-seriale, polyphyllum, bracteolis parvis sæpe calyculatum. *Styli* rami cono brevi basi ciliato terminati. *Achænia* erostria. *Pappus* setosus, subscaber, pluriserialis.—Herbæ *et* frutices *Africanæ, carnosæ, sæpe glaucæ, ramis teretibus v. angulatis cicatricatis.* Folia *alterna, integerrima v. sinuato-dentata.* Flores *albi flavi aurantiaci v. subminiati.*

KLEINIA *fulgens*; suffruticosa, glaberrima, glauca, ramis teretibus, foliis breviter petiolatis obovato-oblongis acutiusculis distanter obtuse serratis utrinque glaucis carnosis, nervis tenuibus, pedunculis sub-1-floris bracteatis, bracteis remotiusculis lineari-oblongis, capitulis ecalyculatis homogamis, involucri squamis linearibus acutis, floribus læte miniato-aurantiacis.

The genus *Kleinia* consists of some twenty species, all natives of South Africa, and many of them forming handsome plants, well worthy of cultivation in the succulent house. Amongst these is the subject of the accompanying Plate, which was sent from Port Natal, by Mr. Plant, to our indefatigable horticulturist W. W. Saunders, F.R.S., and in whose succulent-house it flowered in May of the present year. The species does not exist in our herbaria, nor is it described in Harvey and Sonder's 'Flora Capensis.' There is, however, a very similar plant in cultivation, brought from Angola by Dr. Welwitsch, which however, not having flowered, cannot be identified with it.

DESCR. A small, succulent, suffruticose plant, about two to three feet high in our houses, everywhere covered with a pale-green glaucous bloom. *Stems* branched, terete, brittle. *Leaves* succulent, four to six inches long, with short, broad, decurrent petioles, obovate-oblong, subacute, remotely bluntly serrate, uniformly smooth, glaucous and green on both surfaces, veins very indistinct. *Flowering peduncles* four to eight

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nches long, erect, terete, one-flowered, loosely clothed with erect, linear, acute succulent bracts, half an inch to one inch long. *Heads* erect or inclined, an inch and a half long. *Involucre* terete, without any small scales at the base; *leaflets* eight to ten, linear, acute. *Florets* bright vermilion-orange. *Corolla-tube* slender; *lobes* linear-oblong. *Pappus* scabrid, unequal.—*J. D. H.*

Fig. 1. Vertical section of involucre and receptacle. 2. Floret. 3. Pappus. 4. Stamen. 5. Style and stigmas:—*all magnified.*

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TAB. 5591.

FREMONTIA CALIFORNICA.

Californian Fremontia.

Nat. Ord. MALVACEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Flores 3-bracteati. *Calyx* patenti-campanulatus, coloratus, profunde 5-fidus, laciniis petaloideis leviter imbricatis. *Petala* 0. *Stamina* 5, filamentis basi in tubum confluentibus superne patentibus; *antheræ* reniformes, retrorsum dehiscentes (v. *columna staminea* 5-fida, ramis linearibus superne dilatatis et extrorsum antheras 2 1-loculares antheram 2-locularem simulantes ferentibus). *Ovarium* 5-loculare, loculis ∞-ovulatis; *stylus* filiformis, stigmate acuto. *Capsula* loculicide 4–5-valvis. *Semina* ovata, testa crustacea nitida, albumine carnoso; cotyledones ovatæ, subplanæ.—Frutex Californicus, *stellato-pubescens*. Folia *cordata, lobata*. Flores *majusculi, flavi, pedunculis oppositifoliis.*

FREMONTIA Californica. *Torrey in Smiths. Contrib. v.* 6. *p.* 5. *t.* 2. *Walp. Ann. v.* 4. *p.* 19. *Hook. f. et Benth. Gen. Plant. v.* 1. *p.* 212.

A very singular and beautiful hardy Californian shrub, imported by Messrs. Veitch, and which flowered at their nurseries in June of the present year. It is undoubtedly the choicest early-flowering shrub introduced of late years, and more than rivals the *Forsythias* in many respects. It was discovered during Colonel Fremont's adventurous United States Expedition to the Rocky Mountains in 1846, and bears the name of that gallant officer and highly-distinguished explorer.

The botanical characters of *Fremontia* are very anomalous. It was referred to a new section of *Bombaceæ* (*Fremontieæ*) by its founder, and correctly placed along with the famous Hand-plant, *Cheirostemon* (Tab. nostr. 5135), and the stamens were described as five, with two-celled anthers. On the other hand, certain considerations of affinity and structure induced Mr. Bentham and myself, following Dr. Torrey, to regard the apparently two-celled anthers of this plant and

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Cheirostemon as consisting of two confluent single-celled anthers,—whence we referred both to the Order *Malvaceæ* instead of *Sterculiaceæ*. I must confess, however, that after examining living specimens of *Fremontia*, I am inclined to refer the *Fremontieæ* back to *Sterculiaceæ*, placing it next to the tribe *Sterculieæ*.

DESCR. A woody shrub, attaining ten feet in its native country, and resembling a Fig-tree. *Leaves* produced at the extremity of the branchlets, petioled; *petiole* slender, one to three inches broad, suborbicular, three- to seven-lobed; *lobes* entire or crenate, sparsely stellate-pubescent above, glaucous below, and ferruginous when dry. *Peduncles* as long as the petioles or shorter, stout, one-flowered. *Flowers* numerous, golden-yellow, two to two and a half inches in diameter, tribracteolate at the base; *bracts* small, ovate-subulate. *Calyx* broadly and openly campanulate, five-lobed to below the middle, petaloid, stellate-pubescent externally, villous internally, with five pits at the base; *lobes* orbicular, apiculate. *Staminal column* short, divided into five spreading arms, each terminated by two reniform parallel anther-lobes that dehisce outwardly. *Ovary* conical, pubescent, five-celled, with numerous ovules in each cell; *style* filiform, pilose, with spreading hairs; *stigma* acute.—*J. D. H.*

Fig. 1. Arm of staminal column. 2. Ovary. 3. Transverse section of ditto:—*all magnified.*

5592

W. Fitch, del. et lith.

Vincent Brooks, imp.

Tab. 5592.

FERNANDESIA ROBUSTA.

Stout Fernandesia.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Perianthium patens. *Sepala* libera. *Petala* conformia, sub sepalo supremo conniventia. *Labellum* anticum v. posticum, ecalcaratum, liberum, trilobum, disco tuberculatum. *Columna* brevis, utrinque aurita. *Anthera* bilocularis. *Pollinia* 2, solida, obovata.—Epiphytæ *caulescentes.* Folia *disticha, equitantia, imbricata.* Racemi *pauciflori, terminales v. laterales.* Flores *parvi, lutei. Lindl. Gen. et Spec.*

Fernandesia *robusta;* foliis carinatis ensiformibus acutis pedunculis unifloris subæqualibus, bracteis triangulis cucullatis acutis, sepalis oblongis apiculatis reflexis, petalis ovatis obtusis, labelli trilobi lobis basilaribus magnis erectis obtusis incurvis, lobo intermedio dilatato quadrifido cuneato lamellis crenulatis instructo, callo hexagono in imâ basi, columnæ alis brevibus rotundatis.

Fernandesia robusta. *Bateman, mss., haud Klotzsch.*

This, which is the largest of all the *Fernandesias*, was originally found in Guatemala by Mr. Skinner. More recently it has been reintroduced from the same country by that well-known ornithologist O. Salvin, Esq., who sent some plants of it to Kew, where they flowered freely, and enabled Mr. Fitch to prepare the figure on the opposite page.

F. robusta is nearly allied to the Brazilian plant *F. lunifera*, figured under the name of *Lockhartia lunifera* in Reichenbach's 'Xenia' (tab. 39. f. 3), but it comes from a totally different country, is much larger in all its parts, has sharp-pointed instead of blunt leaves, and is moreover furnished with an *hexagonal* (instead of *heart-shaped*, as in *F. lunifera*) callus on the disc of its lip. It is easily grown in any house where Catleyas or Oncidiums succeed, and flowers at different seasons.

Descr. *Stems* upright, closely imbricated, about a foot high. *Leaves* keeled, an inch and a half long, sharp at the extremities. *Peduncles* drooping, about the length of the leaves, one-flowered, provided with two or three triangular, acute, inflated *bracts*. *Flowers* two-thirds of an inch long, of a bright yellow colour, barred and spotted on the lower portion of the lip with red. *Sepals* oblong, apiculate, bent backwards. *Petals* ovate, obtuse, stretching a little forwards. *Lip* longer and larger than the petals, three-lobed, its posterior lobes large, upright, and curved a little at top; the middle lobe dilatate, itself divided into four unequal portions, of which the two lateral are shorter and smaller, while the middle are wider and larger, all being blunt or rounded; along its disc run several lamellæ, which are beautifully crenulated, and at its extreme base there is an hexagonal callosity about the size of a pin's head. *Wings of column* short and rounded.—*J. B.*

Fig. 1. Front view of flower. 2. Side view of ditto. 3. Column. 4. Pollen-masses :—*magnified.*

5593.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5593.

SEMPERVIVUM PAIVÆ.

Baron Paiva's House-leek.

Nat. Ord. CRASSULACEÆ.—DODECANDRIA DODECAGYNIA.

Gen. Char. Calyx 6–∞-fidus v. -partitus. *Petala* 6–∞, libera v. basi connata filamentisque adhærentia, oblonga v. lanceolata, acuta v. acuminata. *Stamina* numero petalis duplo v. rarius æqualia, libera, filamentis filiformibus; *antheræ* didymæ v. ovatæ. *Squamulæ* variæ. *Ovarii carpella* tot quot petala, libera v. basi v. ad medium in calycis tubum immersa, in stylos filiformes attenuata, stigmatibus capitellatis; *ovula* in carpellis ∞, placentis marginalibus v. intrusis affixa. *Folliculi* ∞-spermi.—Herbæ *v.* suffrutices, *carnosæ, acaules v. caulescentes.* Folia *alterna, sæpe revoluta.* Cymæ *paniculatæ.* Flores *albi rosei virides flavi v. purpurascentes.*

SEMPERVIVUM *Paivæ*; "fruticosum, glaucum, ramis subelongatis debilibus declinatis v. decumbentibus subtortuosis nudis, sursum laxe rosulato-foliosis, foliis spathulatis abrupte acutis v. mucronulatis, ramorum sterilium distincte serrulatim cartilagineo-ciliolatis, floralium integerrimis, novellis floralibusque minute velutinis, ceteris glaberrimis, panicula late breviterque thyrsoidea laxa omnino glanduloso-velutina, floribus 7–8-meris, petalis (virentibus) ligulato-acuminatis, apicibus recurvis unilateraliter contortis filamentisque deorsum incrassatis glanduloso-velutinis, antheris cordato-globosis muticis, glandulis hypogynis glabris transverse quadrato-oblongis rectilineari-truncatis integerrimis." *Lowe.*

SEMPERVIVUM Paivæ. *Lowe, mss.*

This hitherto undescribed species of House-leek was brought to the Royal Gardens by my friend the Rev. R. T. Lowe, M.A., F.L.S., who discovered it in the island of Gomera, one of the Canary group, and whose excellent description I herewith append:—

"I met with several plants of this *Sempervivum* (*Æonium*, Webb) in April, 1861, on walls a mile or two above the church in the valley of Hermigua, on the north side of Gomera, on my second few days' visit to that long-neglected island, so interesting in the grandeur of its scenery and richness of botanical productions. They were not in flower; but perceiving them to differ from other Canarian species, I

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brought away several plants, some of which have since flowered in Madeira, under the care of Sir J. M. Moniz, and other two are now flowering with me here in England.

"The species belongs to the same group as *S. urbicum*, C. Schm., *S. ciliatum*, Willd., and *S. Haworthii*, W. B., approaching nearest the two latter and especially the last; but it is perfectly distinct from all in habit and from each in various other characters. Its name is a just tribute to the unwearied zeal of the Barão do Castello de Paiva in promoting, both personally and by kind offices towards others, the investigation of the botany, malacology, and entomology of the Canaries.

"Descr. A straggling tortuously branched low shrub, with a short erect stem, and long weak, slender, curved or crooked, pendently ascending or declining branches, 1–2 feet long, which are naked, woody and ashy-greyish downwards, with brown leaf-scars, fleshy, glaucous and leafy upwards, emitting occasionally aerial, brown, fibrous, pendent roots. *Leaves* highly glaucous, 1–2$\frac{1}{2}$ inches long, $\frac{1}{2}$–1 inch broad, those of the flowering branches thick and fleshy, of the barren thinner and finely serrulato-ciliate, the cilia white, short, acute, irregular and obsolete or wholly evanescent on the older leaves and flowering branches. *Panicle* terminal, ascendently erect, 6–8 inches long and broad, minutely but thickly glandular-pubescent and slightly viscid, leafy; *branches* subelongate, erecto-patent, leafy, ending in forked cymes. *Inflorescence* and *flowers* (except the squamulæ and lower halves of ovaries) glandular-pubescent. *Flowers* rather large, green, scentless, pyramidally conoidal in bud, $\frac{1}{2}$ inch long, in flower $\frac{3}{4}$ inch broad. *Sepals* bright-green, fleshy, ovate, $\frac{1}{6}$ inch long. *Petals* three times the length of the sepals, $\frac{1}{12}$ inch broad, narrow-acuminate, erecto-patent, tips recurved and spirally curved or twisted to one side both in bud and flower, pale-green, white downwards. *Stamens* erect or subincurved and connivent, not above half the length of the petals; *filaments* white, gradually thickened and obcompressed downwards; *anthers* pale or whitish, retuse, not apiculate. *Scales* incisor-tooth-like, short, transversely oblong, nearly twice as broad as high, rectilineally truncate, with a broad, flat edge, perfectly entire, smooth, and shining. *Lower half of ovaries* smooth, shining, *upper* glandular-pubescent; *styles* erect, glandular-pubescent; *stigmas* recurvedly patent; the *whole* white, forming an urceolate or inverted funnel-shaped column, $\frac{2}{3}$–$\frac{3}{4}$ the length of the stamens."—*R. T. Lowe.*

Fig. 1. Flower. 2. Ovaries. 3. Single carpel:—*all magnified.*

W. Fitch, del. et lith

Vincent Brooks, imp

Tab. 5594.

SANCHEZIA nobilis.

Brilliant-flowered Sanchezia.

Nat. Ord. Acanthaceæ.—Diandria Monogynia.

Gen. Char. Calycis foliola 5, spathulata, inæqualia. *Corollæ* tubus longe exsertus, tubulosus, ore coarctato, limbi lobis 5 parvis late ovatis revolutis. *Stamina* fertilia 2, exserta, filamentis retrorsum pilosis; *antheræ* 2-loculares, loculis parallelis hirsutis basi breviter calcaratis; stamina 2 rudimentaria subuliformia inter bases fertilium. *Ovarium* 2-loculare; *stylus* filiformis, exsertus, apice curvus, 2-fidus; *ovula* in loculis 4, adscendentia. *Fructus* ignotus.—Herbæ Peruvianæ *robustæ, ramosæ, ramis 4-gonis.* Folia *petiolata, petiolis basi connatis, integerrimis v. dentatis.* Flores *speciosi, in cymas paniculatas confertas late bracteatas terminales dispositi.*

Sanchezia *nobilis;* foliis ramisque glaberrimis obovato-oblongis lanceolatisve acuminatis obtuse dentatis in petiolum latum attenuatis, bracteis magnis late ovatis concavis puberulis rubris, corolla 2-pollicari fere glabra crocea.

A most beautiful and highly-interesting plant, discovered by Messrs. Veitch's indefatigable collector Mr. Pearce, in Ecuador, in 1863, and which flowered in the Royal Exotic Nurseries, Chelsea, in June last. It cerlainly belongs to the little-known genus *Sanchezia* of Ruiz and Pavon, with the original description of which it agrees in all respects except the structure of the ovary. This, according to Ruiz and Pavon's description and figure, is that of a Scrophularineous plant, whilst our plant shows it to be truly Acanthaceous. This is not the only instance in which the usually accurate authors of the 'Flora Peruviana' have referred the fruit of one plant to the flower of another, a mistake which could hardly have occurred in this instance had the Natural System been invented when the genus was described, for the two species figured in the 'Flora Peruviana' are so obviously Acanthaceous in habit and floral characters, that it is almost inconceivable that they should belong to any other Natural Order.

Sanchezia nobilis differs from both the species hitherto described in its very much greater size, and from *S. oblonga*, which it closely resembles in foliage, and in the almost glabrous corolla; its affinity with *Ancylogyne* (Tab. nostr. 5588) is obvious, and so close, that there can be little doubt but that the name *Ancylogyne* should be suppressed.

Descr. A stout, erect, herbaceous plant, altogether glabrous except the inflorescence, which is faintly downy. *Stems* obtusely tetragonous. *Leaves* three to nine inches long, oblong-obovate or oblong-lanceolate, acuminate, obtusely toothed, narrowed into short, broad-winged petioles, that are connate at the base. *Inflorescence* erect, terminal, of numerous opposite bracteate fascicles of flowers, forming together a dense panicle, most brilliantly coloured, the branches deep-purple, the bracts bright red, and the corollas yellow. *Bracts* an inch to an inch and a half long, orbicular, ovate, obtuse, very concave, each pair enclosing eight or ten flowers and reaching halfway up the corolla tube. *Calyx-lobes* not half as long as the corolla, obtuse. *Corolla* two inches long by one-third in diameter, cylindrical, nearly glabrous, slightly curved, contracted at the mouth.—*J. D. H.*

Fig. 1. Flower. 2. Base of corolla, cut open, and stamens. 3. Ovary. 4. Longitudinal, and 5. Transverse section of ditto:—*all but Fig.* 1 *magnified.*

W. Fitch, del. et lith

Vincent Brooks, Imp

Tab. 5595.

SACCOLABIUM AMPULLACEUM.

Bottle-lipped Saccolabium.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra,* Tab. 5326.)

Saccolabium *ampullaceum ;* caule brevissimo, foliis crassissimis distichis ligulatis canaliculatis apice truncatis dentatis, racemis oblongis erectis foliis multo brevioribus, sepalis petalisque ovatis patentibus subæqualibus, labello angusto acuminato concavo calcare compresso pendulo duplo breviore. *Lindl.*

Saccolabium ampullaceum. *Lindl. Sert. Orch. t.* 17. *Paxt. Mag. v.* 13. *t.* 49.

Ærides ampullaceum. *Roxb. Fl. Ind. v.* 3. *p.* 476.

This is a neat, compact, and beautiful plant, it is likewise perfectly distinct from any other species of the genus at present known. It was figured so long ago as 1838 by Dr. Lindley, in his ‘Sertum,’ but his plate was copied from a drawing in the possession of the East India Company. A few living specimens found their way shortly afterwards into collections,—one of which, that flowered at Chatsworth, was figured in ‘Paxton's Magazine,’—but the plant continued exceedingly rare until Messrs. H. Low and Co. received a supply from one of their Indian collectors. The accompanying figure was taken from a plant that flowered at Kew in May.

Æ. ampullaceum is a native of Sylhet, where it was found growing upon trees by some of Dr. Roxburgh's correspondents. Dr. Wallich met with it near Bemphedy, and it was also gathered in Sikkim by Drs. Hooker and Thomson. Its time of flowering, both in India and our gardens, is the spring. It grows slowly, rarely producing offsets, but is easily managed. Nothing can be more charming than its bright rose-coloured racemes, which are freely produced and last long in beauty.

Descr. A dwarf plant, not rising more than six inches high, usually with a simple stem. *Leaves* barely a span long, distichous, very thick, ligulate, with the edges nearly parallel, carinate beneath, channelled above, truncated and irregularly toothed at the apex. *Flowers* of a deep rose-colour, growing in erect, oblong, axillary *racemes*, which are much shorter than the leaves. *Flower-stalks* and *ovary* together about an inch long. *Sepals* and *petals* nearly equal, ovate, spread out flat and beautifully veined. *Lip* linear, falcate, twice as short as the sepals, channelled, acute, rather turned upwards at the point, with a compressed, straight, slender spur, nearly as long as the flower-stalk ; at the base of the lip are two teeth pressed close to the base of the column, and parallel with it. *Column* short, with a small hollowed stigma in front.—*J. B.*

Fig. 1. Side view of flower :—*magnified.*

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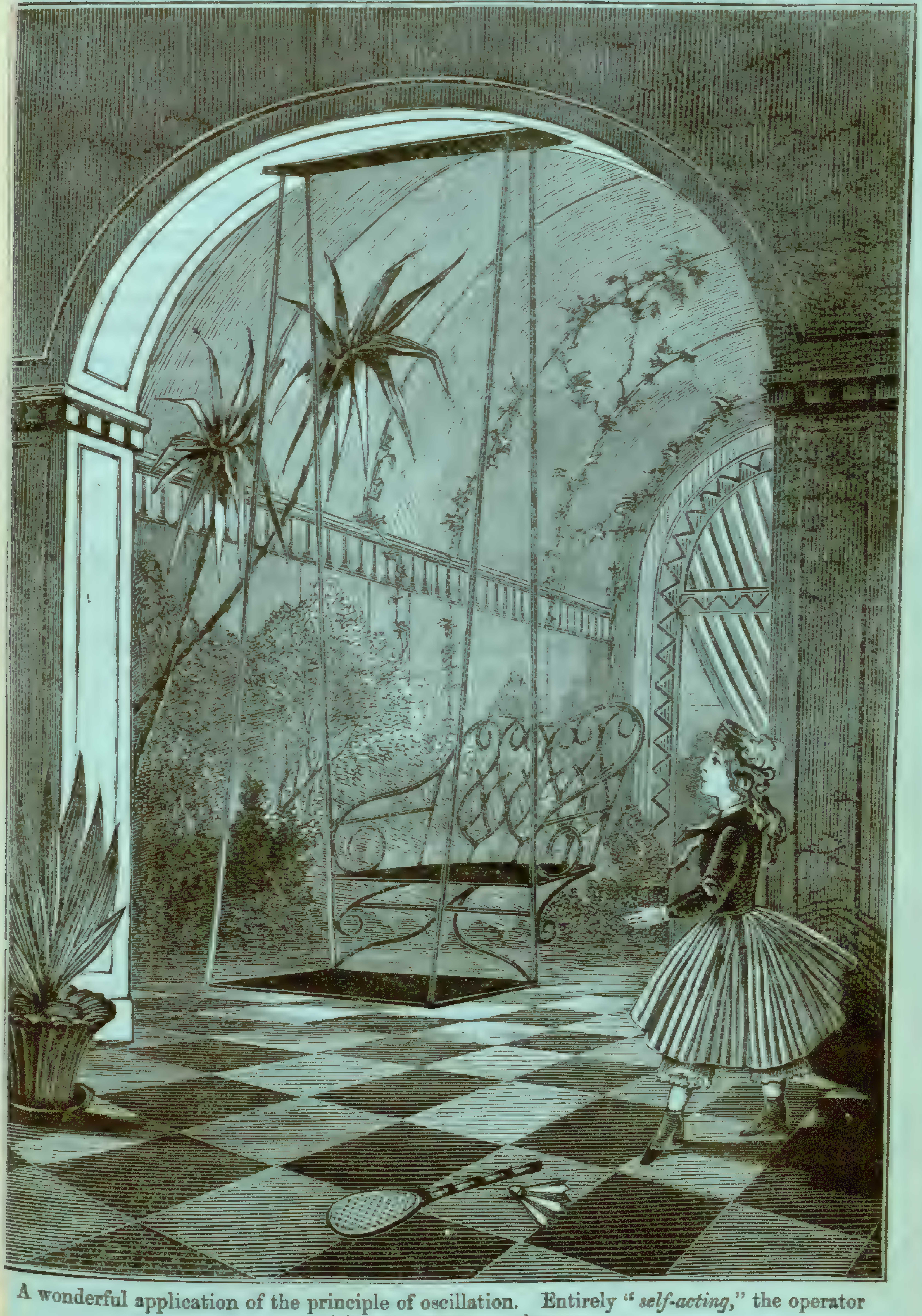

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HABRANTHUS FULGENS. Figured in the above work, under this name, in March last, and formerly known as Phycella sp. nova. It was received from our collector in Chili, and is one of the most brilliant-coloured bulbous plants that we know. Dr. Hooker speaks of it as "a truly magnificent plant, sent by Messrs. Backhouse, of York, with whom it flowered in April of last year. The flowers are 4 to 5 inches across, bright scarlet, with a yellow tube, borne in clusters of five to seven on a stem." Price 10*s.* 6*d.*

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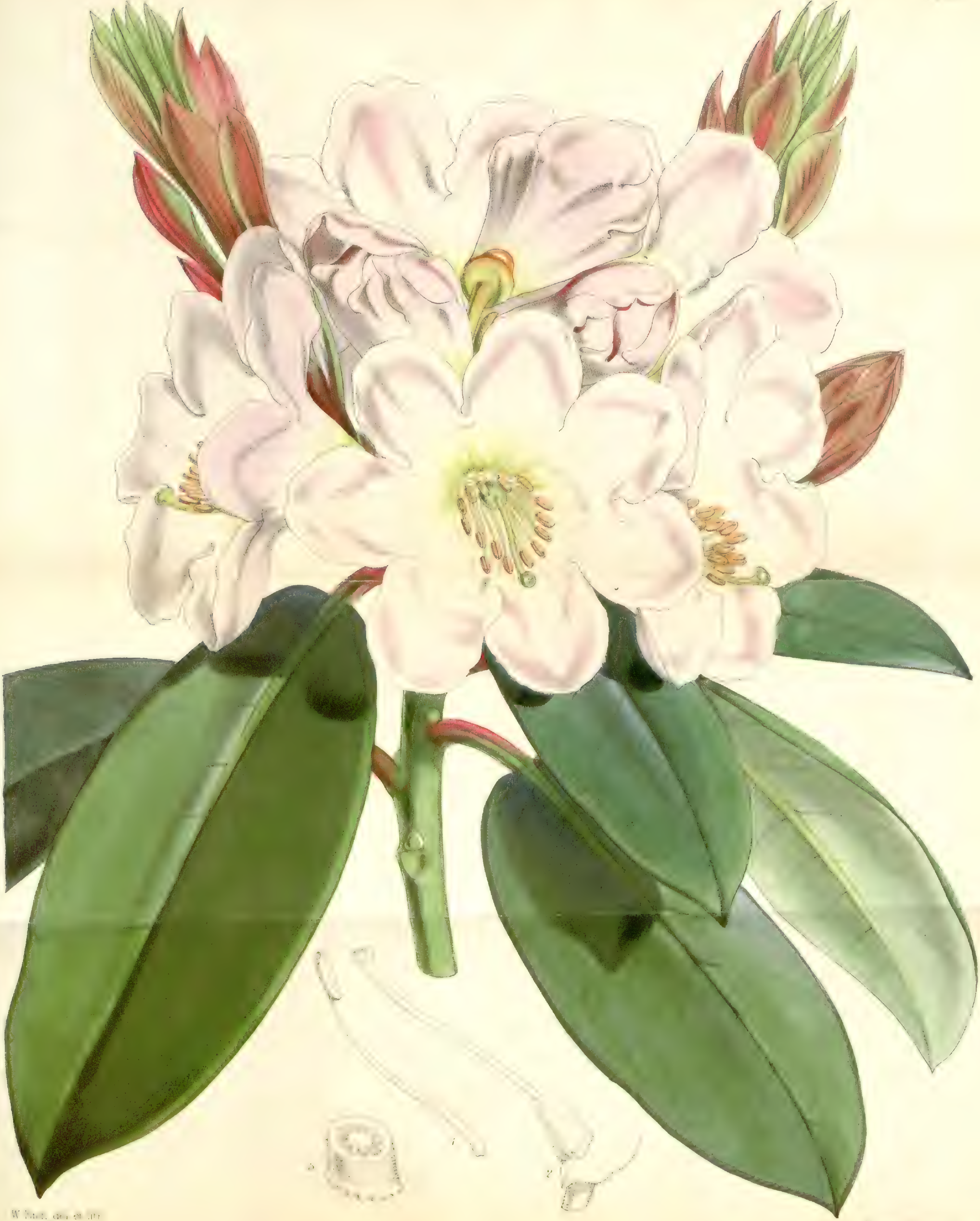
5596.



W Fitch del et lith

Vincent Brooks imp

TAB. 5596.

RHODODENDRON FORTUNEI.

Mr. Fortune's Rhododendron.

Nat. Ord. ERICEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4336.)

RHODODENDRON *Fortunei;* glaberrima, nisi ramulis foliis junioribus pedunculis calycibusque glanduloso-pubescentibus, ramulis robustis, foliis sublonge crasse petiolatis oblongis lineari-oblongisve acutis supra viridibus subtus pallidioribus, capitulis laxifloris, floribus amplis pallide roseis, calycis limbo parvo disciformi, corolla breviter campanulata, limbo amplo patente sub-7-lobo, lobis subundulatis, staminibus ad 14, ovario glanduloso 10-loculari.

RHODODENDRON Fortunei. *Lindley in Gard. Chron.* 1859, *pl.* 868.

The centre of the Rhododendron area is certainly Eastern Asia, from both the tropical and temperate regions of which continent new species are constantly turning up; hitherto, however, we have very few from China or Japan. The present very beautiful one was discovered by Mr. Fortune in the Chinese province of Chekiang, on mountains 3000 feet high. Its discoverer sent seeds to Mr. Glendining at Chiswick, who raised plants that proved perfectly hardy in the open air, and from which Dr. Lindley originally described the species. For the specimen here figured I am indebted to Mr. Luscombe, of King's Bridge, who flowered it in May of the present year. In the foliage and form of the flower and structure of the calyx and ovary, as also in its fragrant odour, it is closely allied to *R. Griffithianum* and its variety *Aucklandii*, but excels both these in the lovely rose-colour of the corolla.

DESCR. A stout *shrub*, glabrous everywhere except on the young leaves and leaf-scales, peduncles, calyx, and ovary. *Branches* very stout, terete, pale-green. *Leaves* five to seven inches long, oblong or linear-oblong, acute, bright-green but

SEPTEMBER 1ST, 1866.

opaque on the upper surface, glaucous below, acute, rounded or cordate at the base; *petiole* half to one inch long, red-brown. Head of eight to ten loosely-clustered, rather pendulous flowers. *Peduncles* half to one inch long. *Calyx* small, discoid. *Corolla* shortly campanulate, three to three and a half inches in diameter, seven-cleft, the lobes rounded, fragrant, of a fine pale-rose colour. *Stamens* fourteen; *filaments* slender; *anthers* small. *Ovary* glandular-pubescent, ten-celled.—*J. D. H.*

Fig. 1. Stamen. 2. Calyx and pistil. 3. Transverse section of ovary:—*all magnified.*

W. Fitch, del. et lith

Vincent Brooks, Imp

TAB. 5597.

ILEX LATIFOLIA.

Broad-leaved Japanese Holly.

Nat. Ord. ILICINEÆ.—TETRANDRIA MONOGYNIA.

Gen. Char. *Flores* sæpius hermaphroditi. *Calyx* parvus, persistens, 4–5-fidus. *Corolla* rotata, 4- rarius 5–6-partita, laciniis obtusis. *Stamina* lobis corollæ isomera, tubo brevi ejus leviter adhærentia; *antheræ* oblongæ. *Ovarium* sessile, 4–6- rarius 7–8-loculare; *stylus* brevis v. 0, stigmatibus tot quot ovarii loculis; ovula in loculis 1 v. 2, collateralia. *Drupa* globosa, 4–8-pyrena, v. putamine 4–8-loculari.—Arbores *v.* frutices. Folia *alterna, sæpe nitida, integerrima v. rarius dentata v. spinosa.* Pedunculi *axillares.* Flores *albi.*

ILEX *latifolia;* fruticosa, glaberrima, ramulis robustis angulatis, foliis crasse petiolatis coriaceis oblongo-lanceolatis oblongisve obtusis acutis v. acuminatis planis serratis basi cuneatis rotundatis v. angulatis, superne læte viridibus nitidis, floribus in capitula axillaria dense congestis pallide viridibus, calycis lobis rotundatis, corollæ lobis late oblongis obtusis, filamentis filiformi-subulatis, baccis globosis 4-pyrenis.

ILEX latifolia. *Thunb. Fl. Jap. p.* 79. *De Cand. Prodr. v.* 2. *p.* 16.

This noble Holly, though often supposed to be one of the later importations from Japan, has long been cultivated in the Royal Gardens, where it has stood without protection, trained against a wall, for many years, and quite uninjured. In the open air I have not observed it flowering, but it flowers abundantly in the Temperate House during June and July. In other places near London and elsewhere, it is cultivated as a standard; and though I have never seen it luxuriant under such circumstances in the east of England, it no doubt succeeds perfectly in the west. It is a beautiful shrub, of a paler green than the common Holly, with similar berries, and the flowers are produced in round heads of a pale yellow-green colour. As a species it is extremely closely allied to an arborescent Himalayan species that I have found in the Sikkim province, which has however large berries containing a bony three to four-celled nut, which does not, as in this, break up into four nucules. I have native specimens of *I. latifolia*, collected near Nagasaki by the late Mr. Oldham, collector for the Royal Gardens, from whose seeds the plant here figured was raised.

DESCR. A tall evergreen glossy bush. *Branches* very stout, angular, grooved when dry. *Leaves* three to seven inches long, oblong linear-oblong or oblong-lanceolate, acute, obtuse or acuminate, serrate, bright glossy-green above, paler and opaque below; *nerves* numerous, obscure when fresh. *Flowers* probably diœcious, in axillary, dense, subglobose, green clusters an inch to an inch and a half in diameter. *Calyx* with four short rounded lobes. *Corolla* cleft nearly to the base into four broadly oblong, obtuse, concave, pale-green lobes. *Stamens* usually larger than the corolla; *filaments* filiform-subulate. *Berries* half to two-thirds of an inch in diameter, bright-red, globose or a little depressed, with a large persistent four-lobed stigma, containing four bony nuts.—*J. D. H.*

Fig. 1. Flower. 2. The same, open 3. Calyx:—*all magnified.*

5598.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5598.

HUNTLEYA CERINA.

Waxy Huntleya.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

HUNTLEYA *cerina;* pseudobulbis nullis, foliis cuneato-oblongis acutis pedalibus, pedunculis validis unifloris 2- vel 3-plo longioribus, sepalis petalisque subæqualibus subrotundis concavis carnosis, labello ovato convexo retuso cristâ crassâ semicirculari truncatâ plicatâ, columnâ apice nudâ.

HUNTLEYA cerina. *Lindl. in Paxt. Flow. Gar. v. 3. p. 535, cum xylo.*

PESCATORIA cerina. *Rchb. fil. Xenia, t. 65.*

The first notice of this beautiful plant appeared in the third volume of Paxton's 'Flower-Garden' (1852–3), where a description by Dr. Lindley and a woodcut of the flower are given. Dr. Lindley had no hesitation in referring it to the same genus as a plant he had previously described in his 'Sertum' under the name of *Huntleya violacea*, although its column was clavate, while in the latter species that member is remarkably short and thick. But since in other parts of its structure, as well as in habit, it agrees perfectly with the original type of the genus,* I have no hesitation in retaining Dr. Lindley's name, although another high authority, Professor Reichenbach, has figured it in his 'Xenia' under the name of *Pescatoria cerina.*

The plant was originally discovered by Warszewicz in Veragua, on the volcano of Chiriqui, at an elevation of

* It is to be noted that Dr. Lindley never drew up any character of this genus. Professor Reichenbach founded his genus *Bollea* upon the plant which Lindley had already described as *Huntleya violacea*, the latter name ought therefore, if possible, to be retained. Dr. Lindley's second species—*H. meleagris*—which has the habit of a *Vanda* whatever it may be, is certainly no *Huntleya*, neither is it a *Batemannia*, to which genus Reichenbach has referred it. It may possibly be a *Wailesia*, of which it has all the habit; but the whole subject is one of extreme difficulty, and awaits further examination so soon as more extensive materials shall have been accumulated.

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8000 feet. Mr. Rucker was the first to flower it, and indeed was almost its sole possessor, until some recent importations made the plant more plentiful. Mr. Fitch's figure was obtained from a plant exhibited, in beautiful condition, by Messrs. Veitch at one of the Tuesday meetings of the Royal Horticultural Society at South Kensington in June last. It has also flowered at Knypersley, where, although the flowers themselves were larger, the flower-stems were much shorter than those of Messrs. Veitch's specimen; those in Reichenbach's figure are twice the length of either. I have also observed considerable variations in the form of the lip and of the sepals and petals, especially as regards the relative size of the two last.

H. cerina grows slowly, but is easily managed in any house that suits the *Trichopilias*, many species of which are found in the same district with itself. Its flowers are of very long duration.

DESCR. A bulbless *epiphyte*, producing tufts of four or five cuneate-oblong sharp-pointed leaves, which are about a foot long. *Peduncles* one-flowered, from two to six inches long, coming up at the base of the leaves, very strong. *Sepals* and *petals* generally nearly equal, the latter more or less unguiculate, an inch and a half long, nearly round, concave, fleshy, of a pale straw-colour. *Lip* yellow, unguiculate, puckered, ovate, convex, retused, bearing at the foot of its disk a very thick semicircular ruff, composed of numerous plaits and folds. *Column* sometimes with a violet or brown blotch near its base, clavate, but with no expansion or hood over the anther.—*J. B.*

Fig. 1. Lip, spread out flat. 2. Pollen-masses:—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5599.

NIEREMBERGIA VEITCHII.

Mr. Veitch's Nierembergia.

Nat. Ord. SOLANEÆ.—PENTANDRIA DIGYNIA.

Gen. Char. Calyx tubulosus v. subcampanulatus, persistens, arcuatus, 5-fidus, laciniis subæqualibus. *Corollæ* tubus gracilis, elongatus; *limbus* infundibuliformis v. campanulatus, sæpe plicatus, 5-lobus. *Stamina* 5, fauce corolla inserta, inæquilonga, filamentis conniventibus v. connatis; *antheræ* sub stigmate dehiscentes. *Ovarium* 2-loculare; *stylus* simplex, stigmate 2-lamellato; *ovula* plurima. *Capsula* calyce persistente tecta, 2-locularis, septicide 2-valvis. *Semina* plurima, minima.—Herbæ *v.* suffrutices *Austro-Americanæ.* Folia *opposita, alterna v. subverticillata, integerrima.* Flores *extra-alares v. oppositifolia, solitaria;* corolla *alba v. subviolacea.*

NIEREMBERGIA *Veitchii;* glaberrima v. tenuiter pubescens, caulibus gracilibus prostratis ramosis, foliis plerisque oppositis lineari- v. obovato-oblongis v. spathulatis, breviter petiolatis subacutis, floribus breviter pedicellatis, calycis campanulati lobis magnis patenti-recurvis lineari-oblongis acutis, corollæ tubo filiformi, limbo lato campanulato, lobis latis subacutis.

NIEREMBERGIA Veitchii. *Berkeley, mss.*

A lovely little plant, imported by Messrs. Veitch from Tucuman, in South America. Though we find nothing exactly like it either described or in the Herbarium, the species of this genus are so variable, that I suspect it will prove to be a form of the Chilian *N. repens*, R. et P., or Peruvian *N. spathulata*, H.B.K., if indeed these be not all varieties of one widely-diffused and multiform plant, which differs in the amount of pubescence, the form and length of the leaves and their petioles, their opposite or alternate insertion, the length of the peduncles calyx-lobes and corolla-tube, and in the size of the flower. In the present species the lower leaves are alternate, and all the rest opposite, the petioles and pedicels short, and the calyx-lobes rather broad.

DESCR. An elegant, prostrate, branched, slender, glabrous, or very sparingly pubescent herb. *Stems* eight inches to a foot long, branches almost filiform, terete. *Leaves* half to

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one inch long, lowest alternate, the rest opposite, varying from linear above to broadly spathulate below, petiole short, acute or obtuse. *Pedicels* longer than the petioles, a quarter of an inch long. *Calyx-tube* scarcely oblique, short, between funnel-shaped and campanulate; *lobes* linear-oblong, acute, green, spreading and recurved. *Corolla-tube* half to three-quarters of an inch long, slender, white; *limb* broadly campanulate, pale-lilac, with four spreading shallow broad lobes; each lobe with three veins. *Filaments* united into a tube, free at the base and apex. *Stigmas* broadly oblong.—*J. D. H.*

Fig. 1. Stamen and stigma. 2. Ovary and disk:—*both magnified.*

5600.

W. Fitch, del et lith.

Vincent [illegible]

Tab. 5600.

KÆMPFERIA Roscœana.

Mr. Roscoe's Kæmpferia.

Nat. Ord. Scitamineæ.—Monandria Monogynia.

Gen. Char. Calyx tubulosus, hinc fissus. *Corollæ* tubus elongatus, filiformis; *limbi* laciniæ exteriores angustæ, æquales, laterales patentes, postica fornicata, interiores multo majores; *labellum* planum. *Filamentum* breve carinatum; *anthera* mutica, connectivo producto. *Ovarium* 3-loculare; ovula plurima. *Stylus* filiformis, a filamento receptus; stigmate urceolato ciliato. *Capsula* 3-locularis, loculicide 3-valvis. *Semina* ∞, arillata.—Herbæ *Indicæ, habitu* Cucumæ, *bracteis sæpius 2-fariam imbricatis, rarius saccatis. Endl.*

Kæmpferia *Roscœana;* acaulis, tuberibus fasciculatis subsessilibus oblongis, foliis horizontaliter patentibus suborbiculatis obtusis v. subacutis, marginibus minute undulatis opacis subcarnosis, superne luride viridibus colore saturatiore zonatis v. variegatis, floribus paucis sessilibus radicalibus fasciculatis erectis albis, petalis obovatis obtusis, antico profunde 2-lobo.

Kæmpferia Roscœana. *Wall. in Lindl. Bot. Reg. t.* 1212.

Now that the beautiful foliage of many new and little known *Scitamineæ* is bringing them into notice as objects of horticultural interest, it is important to give figures of the well-established species, of which the present is one of the oldest and most beautiful. Though belonging to the same genus as the aromatic *Galanga* and the *Zedoary*, both highly prized in Hindoo medicine, perfumery, and cookery, the present species has no sensible qualities in its root or leaves, and its only claim to notice resides in its beautifully-mottled foliage. It is a native of Burma, was discovered by the late Dr. Wallich in 1826, and sent to the Horticultural Gardens, where it first flowered in 1829. The Royal Gardens are indebted to Messrs. Veitch for the beautiful specimen here figured, which has continued flowering in a tropical stove for several weeks.

September 1st, 1866.

DESCR. *Roots* of numerous elongate, spindle-shaped, fleshy, insipid, inodorous tubers. *Stem* none. *Leaves* two, appearing together, spreading horizontally on the ground, four to five inches long, rather narrower, orbicular or orbicular-oblong, subacute, rather leathery and undulate, the margins with a slender, pale, cartilaginous, minutely-crisped border; upper surface dull, dark, opaque green, variegated, mottled, or zoned with paler green; under surface dirty-greenish, inclining to reddish. *Flowers* fascicled, sessile, one opening at a time, pure white, four about one inch in diameter, inodorous. *Bracts* lanceolate, hyaline. *Calyx* short, subcylindric, oblique, slender, glabrous. *Tube of corolla* cylindric, one and a half inch long; *outer segments* linear, acute; *inner* spreading horizontally, obovate, obtuse, anterior deeply 2-lobed; *lobes* obtuse. *Anther* linear-oblong; connective unguiculate. *Stigma* cuneate, 2-lobed.—*J. D. H.*

Fig. 1. Flower. 2. The same, with anterior petal removed. 3. Anther and stigma:—*all magnified.*

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5601.

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TAB. 5601.

CŒLOGYNE CORRUGATA.

Cœlogyne with wrinkled pseudobulbs.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra,* TAB. 5462.)

CŒLOGYNE *corrugata;* pseudobulbis ovatis rugosissimis cæspitosis diphyllis, foliis oblongis membranaceis racemo erecto 3–6-floro longioribus, bracteis cymbiformibus oblongis, petalis sepalisque subæqualibus oblongis acutis, labelli medio tricristati lobis lateralibus acutiusculis intermedia ovato acuminato obtuso. *Lindl.*

CŒLOGYNE corrugata. *Wight, Icon. t.* 1639. *Lindl. Fol. Orch.*

Although a very accurate representation of this pretty *Cœlogyne* appeared fifteen years ago in Dr. Wight's 'Icones,' it never, so far as I am aware, took its place among our living collections before the year 1863, when some specimens were received from India by the Royal Gardens at Kew. It is found, according to Dr. Wight, near Courtallum, Tulney Mountains (Neilgherries), where it flowers in August and September. It also grows wild in Khasya, according to Lobb. The figure is taken from a specimen that flowered at Knypersley in the summer of the present year. Like many other *Cœlogynes*, it will not thrive in the East Indian house, but is quite at home in the coolest part of the Cattleya house. It should be grown in a pot.

The wrinkled pseudobulbs, which unfortunately are not so well rendered on the opposite page as in Dr. Wight's plate, are almost peculiar to the species.

DESCR. *Pseudobulbs* in tufts, ovate, very much (reticulately) wrinkled, two-leaved. *Leaves* about a span long, oblong, subacuminate, rather longer than the racemes. *Racemes* three- to six-flowered. *Bracts* boat-shaped, oblong. *Sepals* and *petals* nearly equal, oblong, acute, pure white. *Lip* three-lobed, lateral lobes smaller and blunter than the central which is ovate-acuminate; on the disk are three raised parallel longitudinal lines; the limb of the lip is yellow in the inside, marked with orange streaks.—*J. B.*

Fig. 1. Column. 2. Lip, seen sideways. 3. Ditto, front view:—*magnified.*

5602.

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TAB. 5602.

COTYLEDON FASCICULARIS.

Glaucous-blue Cotyledon.

Nat. Ord. CRASSULACEÆ.—DECANDRIA PENTAGYNIA.

Gen. Char. *Calyx* 5-partitus, *corollæ* tubo æqualis v. brevior. *Petala* 5, sæpius ad medium connata, erecta v. patentia. *Stamina* 10, rarissime 5, petalis sæpius breviora. *Squamulæ* variæ. *Ovarii* carpella 5, in stylos filiformes attenuata, stigmatibus parvis; *ovula* ∞. *Folliculi* 5, ∞-spermi.—Herbæ v. frutices, *raro annuæ, ramis foliisque sæpius crassis, sed habitu valde variæ.* Folia *opposita v. alterna, petiolata v. sessilia.*

COTYLEDON *fascicularis*; glaberrima, pallide albo-virens, glauca, foliis sparsis sessilibus cuneato-obovatis cuspidatis planiusculis crassis, paniculæ ramis elongatis scorpioideis, floribus magnis pedicellatis pendulis, calycis lobis brevibus late ovatis acutis, corollæ tubo calyce multo longiore subcylindraceo, lobis reflexis lineari-oblongis acutis.

So far as these plants can be determined by descriptions, this appears without doubt to be the *Cotyledon fascicularis* of Aiton, and it further agrees with an unnamed drawing made many years ago at Kew of a *Cotyledon* that existed in the Garden at the date of the publication of 'Hortus Kewensis.' It is a beautiful plant, a native of South Africa, from whence the specimen here figured was sent by Mr. Cooper, to our friend W. W. Saunders, Esq., F.R.S., of Reigate, in whose fine collection of succulent plants it flowered in May 1865. The habitats assigned in Harvey and Sonder's 'Flora Capensis' are chiefly in the Karroo districts.

DESCR. A glaucous very pale green erect shrub, one to two feet high, quite glabrous. *Leaves* scattered, two to three inches long, sessile, broadly obovate-cuneate, cuspidate, fully one-third of an inch in thickness, slightly concave, very pale glaucous-green, with a yellowish margin. *Flower-stalk* ten to twenty inches high, stout, terete, erect, paniculately branched; *branches* erecto-patent, with scorpioid inflorescence. *Bracts* on the stem few, small, half an inch long, oblong,

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acute. *Flowers* pedicellate, pendulous, one inch long. *Calyx-lobes* broadly ovate, acute. *Corolla* puberulous, five to six times longer than the sepals, cylindrico-campanulate, with five reflexed linear-oblong lobes; *tube* yellow-green and dull red; *lobes* dull red with green margins. *Stamens* ten, included; *filaments* pubescent at the very base. *Squamulæ* connate with the base of the ovary, short, concave.—*J. D. H.*

Fig. 1. Base of corolla and stamens. 2. Carpels and squamulæ. 3. Transverse section of carpels:—*all magnified.*

5603.

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Vincent Brooks, Imp

Tab. 5603.

GLYPTOSTROBUS pendulus.

Pendulous deciduous Cypress.

Nat. Ord. Coniferæ.—Monœcia Polyandria.

Gen. Char. Flores in iisdem ramis monoici. Masc. *Amenta* parva, ramulis elongatis spicata v. paniculata, oblonga, sessilia. *Antheræ* 6–8, globosæ, ad basin squamæ late ovatæ, sessiles. Fœm. *Amenta* parva, ad basin spicæ masculæ pauca; *squamæ* 8–10, ovatæ, patentes. *Ovula* 2, ad basin squamarum, erecta, lageniformia. *Strobili* ovoideo-subglobosi, lignosi; *squamæ* e basi strobili ortæ, lineari-obcuneatæ, imbricatæ, caducæ, dorso mucrone conico instructæ. *Semina* 2, ad basin squamæ, compressa; testa membranacea, superne alata.—Arbores Chinenses, *ramulis erectis v. pendulis.* Folia *alterna, sparsa v. disticha, lineari-subulata, subtrigona v. plana.* Gemmæ *perulatæ.*

Glyptostrobus *pendulus;* ramis patentibus horizontalibus et decurvis, ramulis ultimis adscendentibus (demum pendulis) simpliciusculis elongatis, foliis junioribus subulatis adultis lineari-acicularibus acuminatis.

Glyptostrobus pendulus. *Endl. Synops. Conif. p.* 71. *Carrière, Traité Gen. Conif. p.* 152.

Taxodium Sinense. *Hort. Noisette; Gord. Pinetum*, 308.

Taxodium Sinense pendulum. *Forbes, Pinet. Woburnense, p.* 180. *Loudon, Ecycl. p.* 1078.

Cupressus disticha, β. nutans. *Ait. Hort. Kew. ed.* 2. *p.* 323.

One plant of the beautiful tree here figured was long cultivated at Kew, side by side with a specimen (since dead) of *Taxodium distichum*, of which it was considered a variety by the elder Aiton. Of its native country or introducer, however, nothing is known, and I am indebted to Professor Oliver (who this year observed male and female flowers on it) for clearing up its botanical history, and referring it, no doubt correctly, to the rare and little known *Glyptostrobus pendulus* of China. Its similarity to the *Taxodium distichum* is very striking: like that plant it has pendulous spikes of male cones, with one or few female cones at the base of the spike, and sheds its ultimate branches annually, but it differs in the

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foliage not being distichous, in the scales of the cone not being peltate, but arising from one point at the base of the cone, and in the winged seeds. The habit too is very remarkable, owing to the great slenderness of the twisted stem, decurved branches, and pectinately disposed branchlets.

DESCR. A slender tree, forty feet high; trunk straight, covered with ragged reddish-brown bark. *Branches* horizontal and decurved, slender, ultimate four to six inches long, at first ascending and nearly erect, giving the branches a pectinate appearance, pendulous and deciduous in autumn. *Leaves* inserted all round the branchlets, young one-sixth to one quarter of an inch long, subulate, trigonous; adult half to three-quarters of an inch long, nearly flat, narrow linear acicular, acuminate. *Male inflorescence* in pendulous spikes or narrow racemes two to four inches long, from the tips of the branches. *Male cones* one-eighth of an inch long, as broad as the short peduncles, which are covered with closely imbricating triangular scales, and ovoid-obtuse. *Scales* eighteen to twenty, like those on the peduncles, each bearing six to eight globose anther-cells at its base. *Female cones* minute, solitary or few at the bases of the male spikes, on very short scaly peduncles. *Scales* twelve to twenty, ovate with subulate lips, spreading, each with two collateral erect flagon-shaped ovules at its base. *Ripe cone* unknown.—*J. D. H.*

Fig. 1. Leaves. 2. Male peduncle and cone. 3. and 4. Male scales and anther-cells. 5. Female cone. 6. Scale of ditto and ovules:—*all magnified.*

W. Fitch, del. et lith.
Vincent Brooks, Imp.

TAB. 5604.

HELIPTERUM COTULA.

Cotula-flowered Everlasting.

Nat. Ord. COMPOSITÆ.—SYNGENESIA SUPERFLUA.

Gen. Char. Capitulum multiflorum, nunc homogamum, floribus omnibus hermaphroditis tubulosis 5-dentatis; nunc heterogamum, fl. radii uniseriatis sæpe paucissimis fœmineis gracilibus. *Involucrum* imbricatum, squamis scariosis, interioribus conniventibus v. radiantibus. *Receptaculum* planum, epaleaceum, nunc nudum v. areolatum, nunc fimbrilliferum. *Achenia* erostria, sessilia, areola terminali. *Pappus* 1-serialis, plumosus.—Herbæ *aut* suffrutices Austro-Africanæ *et* Australasicæ.

HELIPTERUM *Cotula;* herbaceum, laxe pilosum v. subvillosum, ramis elongatis gracilibus simpliciusculis 1-cephalis, foliis filiformibus, involucri squamis radiantibus albis v. aureis, interioribus oblongis subacutis, intimis sæpe abbreviatis, pappi setis sursum dilatatis longe plumosis, achænio glaberrimo.

HELIPTERUM Cotula. *De Cand. Prodr. v.* 6. *p.* 215.

HELIPTERUM citrinum. *Steetz in Plant. Preiss. v.* 1. *p.* 474.

HELIPTERUM simplex. *Steetz, l. c. p.* 475.

HELIPTERUM præcox. *F. Muell. in Herb. Hook.*

HELICHRYSUM (Helipterum) Cotula. *Benth. in Huegel Enum. p.* 65.

A very beautiful West Australian Everlasting, for the seeds of which we are indebted to Mr. Thompson, of Ipswich, in whose establishment, and that of Kew, it flowered in May of the present year. The seeds were sent from Swan River by the son of the late T. Drummond, the veteran explorer of the vegetable riches of that country, and the introducer of most of the beautiful plants we possess from it. Like some other species of this genus, *H. Cotula* bears heads of two colours, golden-yellow and white, but I have seen no intermediates, and the individual plants have one-coloured heads; the white-headed variety is the *H. Cotula*, the yellow *H. citrinum*, whilst *H. simplex* seems founded upon weak unbranched specimens. The plants appear to be common in South-West Australia.

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Descr. A slender annual plant, six to twenty-four inches high, more or less covered with weak flaccid woolly hairs. *Stem* terete, generally much branched from the base, but sometimes simple; *branches* very slender. *Leaves* scattered (opposite in very young weak plants), one inch long, filiform, terete. *Heads* half to one inch across, solitary at the ends of the branches; yellow, or white with a yellow eye. *Involucral scales* radiating, scarious, oblong or oblong-lanceolate; outer shorter, intermediate quarter of an inch long, subacute; innermost again shorter, and sometimes very short and truncate. *Pappus* hairs thickened upwards, very plumose. *Achenes* smooth.—*J. D. H.*

Fig. 1. Leaf. 2. Involucral scale. 3. Floret. 4. Pappus:—*all magnified.*

5605.

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TAB. 5605.

BOLBOPHYLLUM RETICULATUM.

Reticulated-leaved Bolbophyllum.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 5309.)

BOLBOPHYLLUM *reticulatum;* rhizomate elongato, pseudobulbis pedunculis squamis amplis imbricatis truncatis, pseudobulbis ovoideis 1-phyllis, folio amplo ovato-cordato acuminato pallide viridi, nervis saturate viridibus nervulisque pulcherrime reticulato, pedunculis brevibus sub-2-floris, floribus magnis, sepalo dorsali petalisque subsimilibus ovato-lanceolatis acuminatis intus purpureo striatis, sepalis lateralibus majoribus concoloribus subfalcatis, labello trulliformi recurvo.

BOLBOPHYLLUM reticulatum. *Bateman, mss.*

A most singular and beautiful plant, certainly the finest of the genus, whether we consider the size of the flower, its handsome striped sepals and petals, or the extraordinary beauty of the large reticulated leaves. It was discovered by Thomas Lobb in Borneo, and flowered with the employers of that successful collector, Messrs. Veitch, at the Royal Exotic Nurseries, King's Road, in August of the present year. There is nothing at all resembling it in either the Lindleyan or Hookerian Herbaria at Kew, and may no doubt be taken as an earnest of the Orchideous riches remaining to be discovered in the Bornean forests.

DESCR. *Rhizome* elongate, prostrate, simple or sparingly branched, covered with closely imbricating, broadly ovate, acute brown scarious sheathing scales. *Pseudobulbs* solitary, scattered, ovoid, about an inch long, bearing one leaf covered by two or three sheathing scales, like those of the rhizome, but larger. *Leaf* large, three to five inches long, ovate-cordate, acuminate, much nerved, the longitudinal and transverse nerves deep green, producing a beautiful reticulation on the paler green of the substance of the leaf; *petiole* short, stout.

Peduncle from the base of the pseudobulb, short, stout, curved, one to two inches long, covered with sheathing ovate-acuminate bracts, two-flowered. *Flowers* one and a quarter inch diameter, pale externally, internally white, with stripes of clear red-purple (sometimes broken up into spots) in the sepals and petals internally. *Sepals* arched; dorsal ovate-lanceolate, acuminate; lateral much broader at the base, somewhat falcate and decurved. *Petals* like the dorsal sepal, but smaller and more acuminate. *Lip* trowel-shaped, recurved, cordate, with recurved auricles at the base, rather fleshy, spotted with purple; *claw* slender.—*J. D. H.*

Fig. 1. Ovary, column, and lip. 2. Under side of lip. 3 and 4. Pollen:—*all magnified.*

5606

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TAB. 5606.

MUSSCHIA WOLLASTONI.

Mr. Wollaston's Musschia.

Nat. Ord. CAMPANULACEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calyx 5-fidus. *Corolla* profunde 5-fida, aurea. *Stamina* 5, libera, filamentis basi glabris leviter dilatatis; *antheræ* lineares, cuspidatæ. *Ovarium* breve, 5-gonum; *stylus* columnaris, stigmatibus 5 elongatis horizontalibus apice revolutis. *Capsula* 5-locularis, 10-nervis, lateraliter fissuris numerosis inter nervos dehiscens, loculis 5 cum lobis calycinis alternantibus. *Semina* ovoidea.—Suffrutices *glabri*; caule *robusto erecto*. Folia *alterna, magna, serrata*. Panicula *pyramidata, terminalis*. Flores *magni flavi.*

MUSSCHIA *Wollastoni;* herbacea, hirto-pubescens, suffrutescens, foliis oblongo-lanceolatis acutis basi longe attenuatis sessilibus argute duplicato-serratis pubescentibus subtus hirsutis, panicula pyramidata elata multiflora, ramis patentibus, calycis sinubus vix appendiculatis, laciniis oblongo-lanceolatis acuminatis tubo 2–4-plo longioribus, corollæ velutinæ laciniis linearibus tubo longioribus.

MUSSCHIA Wollastoni. *Lowe in Hook. Lond. Journ. Bot. v.* 8. *p.* 298. *Johnson, l.c. v.* 9. *p.* 164.

A beautiful plant, introduced from Madeira into Kew about ten or twelve years ago, where it has flowered annually since in a cool greenhouse. The genus to which it belongs is restricted to the Madeiran group, and might perhaps be best referred to *Campanula* as a section of that genus, equivalent to *Eucodon* and *Medium;* it is confined to the Madeiran islands. The only other known species of *Musschia* is the old *M. aurea*, a plant cultivated at Kew as early as 1777, and figured in the 'Botanical Register,' t. 57.

The Rev. Mr. Lowe, who is the author of this species, describes it as being found but rarely in shaded valleys of Madeira, above three to four thousand feet elevation, and adds, in a private letter, that its habit is so much like that of *Sonchus fruticosus*, that it is only distinguishable at a little distance, when out of flower, by the non-sinuate leaves.

DESCR. A large-leaved undershrub. *Stem* naked, usually

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simple, two to six feet high, terminated by a crown of leaves and pyramidal panicle. *Leaves* flaccid, one to two feet long, often purplish, oblong-lanceolate, tapering to a broad sessile base, doubly serrate, pubescent above, hirsute below, succulent towards the middle. *Panicle* erect, pyramidal, two feet high and upwards; *branches* spreading. *Flowers* large, yellow-green, one and a half to two inches long. *Calyx* green; *lobes* oblong-lanceolate, acuminate, much longer than the angled tube. *Corolla-tube* cylindrical, shorter than the linear recurved lobes. *Stigmas* radiating, very large, half an inch long, revolute at the apex.—*J. D. H.*

Fig. 1. Calyx, ovary, and stamen,—*magnified.*

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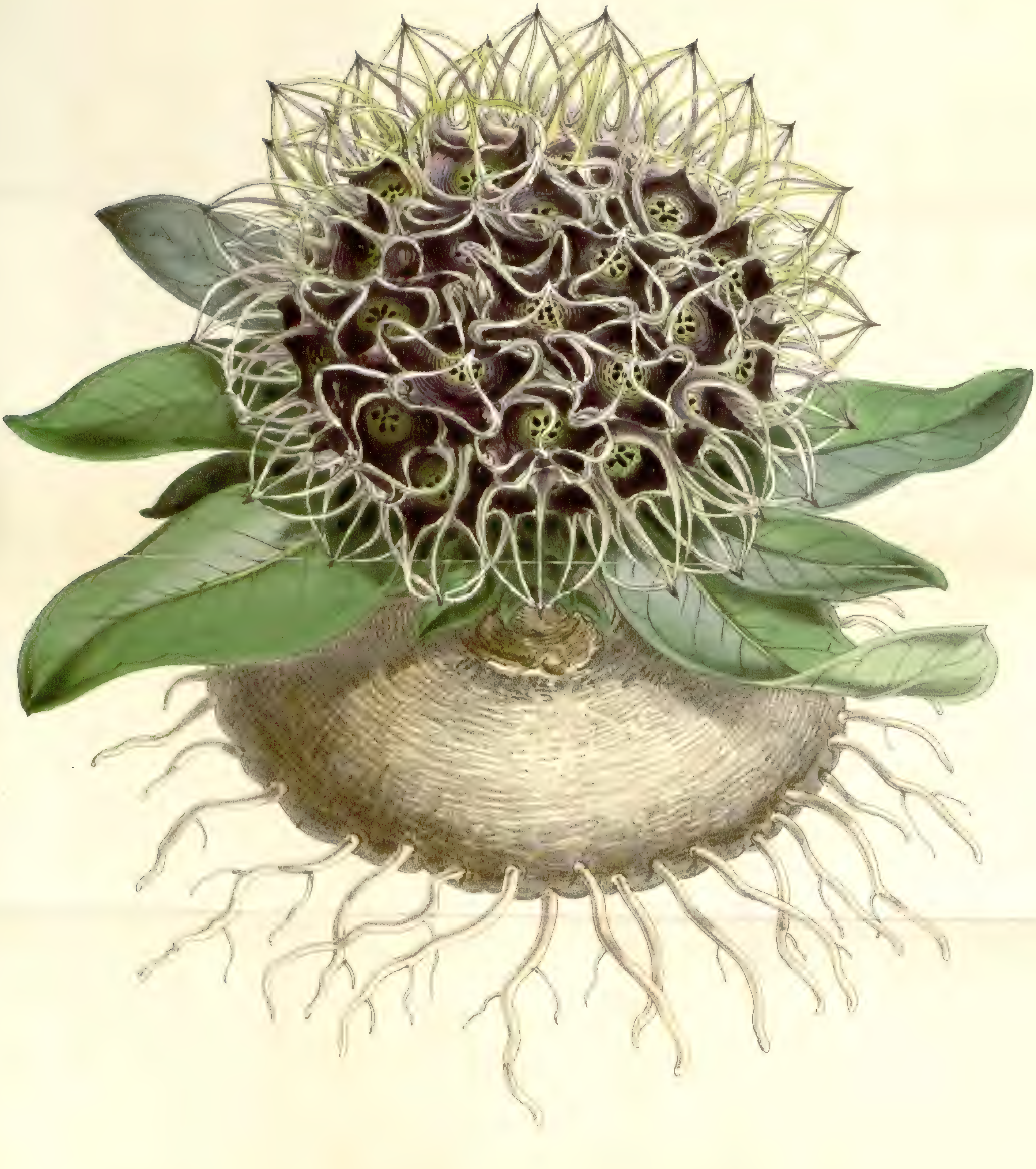

Mrs Barber, delt. Fitch lith.

Vincent Brooks Imp.

TAB. 5607.

BRACHYSTELMA BARBERIÆ.

Mrs. Barber's Brachystelma.

Nat. Ord. ASCLEPIADEÆ.—PENTANDRIA DIGYNIA.

Gen. Char. Calyx 5-phyllus. *Corolla* campanulata, sinubus angulatis. *Corona staminea* 5-phylla, foliolis gynostegio medio adnatis, 3-lobis, lobis antheris oppositis simplicibus longioribusque ad basin dentibus binis introrsum plus minus pilosis stipatis. *Gynostegium* inclusum. *Antheræ* simplices, membrana destitutæ. *Massæ pollinis* erectæ, supra basin affixæ, cum margine pellucido quasi operculatæ. *Stigma* muticum. *Folliculi* graciles, læves, erecti, pedunculo recto. *Semina* comosa.—Herbæ Austro-Africanæ, *perennes, radice tuberosa, eduli.*

BRACHYSTELMA *Barberiæ;* caule brevissimo, foliis lineari-oblongis acutis, floribus numerosissimis in capitulum amplum globosum congestis, corollæ limbo explanato, lobis caudatis elongatis apicibus arcuatis cohærentibus.

BRACHYSTELMA Barberiæ. *Harv. mss.*

The 'Botanical Magazine' claims the privilege of figuring, from time to time, plants which are not as yet in cultivation in England, but which are so remarkable for their interest or beauty as to be objects of great and special interest, and to which public attention should hence be drawn. Amongst such subjects few can rival the subject of the present Plate, of which an admirable coloured drawing, made by our accomplished correspondent Mrs. Barber, of The Highlands, Graham's Town, was transmitted to me for our late mutual friend Dr. Harvey, of Dublin, who had already named the plant from dried specimens. On hearing of Dr. Harvey's decease, Mrs. Barber transferred the drawing to me; and though unable to offer any botanical description of the parts of the flower, I have not hesitated to publish it, both in justice to Dr. Harvey's memory and to his wish that it should bear the name of the amiable person and zealous botanist to whose exertions we owe our knowledge of it.

The genus *Brachystelma* is a rather large South-African one; the species grow in dry places, and form tuberous roots that are eaten by the natives. Some of the species have erect and others twining stems, but none hitherto described approach this in habit, whilst the coherent Ceropegia-like tips of the corolla-lobes is an unusual character in the genus. It was discovered by Mr. Bowker (Mrs. Barber's brother) in the valleys of the Isomo river, in Kaffirland.

DESCR. *Root* a depressed tuber, as large as a turnip. *Stem* very short. *Leaves* spreading, three to four inches long, linear-oblong, acute. *Flowers* collected into a sessile, dense, globose capitulum, four to five inches in diameter, dingy-purple, speckled with yellow in the disk. *Corolla-limb* one inch broad, slightly concave, shortly five-lobed; *lobes* triangular, terminating in slender tails one inch long, which arch inwards and cohere over the centre of the flower.—*J. D. H.*

5608.

W. Fitch, del. et lith

Vincent Brooks, Imp.

TAB. 5608.

NIEREMBERGIA RIVULARIS.

Water Nierembergia.

Nat. Ord. SOLANEÆ.—PENTANDRIA DIGYNIA.

Gen. Char. (*Vide supra*, TAB. 5599.)

NIEREMBERGIA *rivularis;* glaberrima, caule gracili repente, foliis alternis longe petiolatis oblongis oblongo-spathulatisve obtusis, floribus breviter pedunculatis oppositifoliis, calycis tubo cylindraceo supra medium 5-lobo, lobis oblongo-lanceolatis subacutis, corolla albida v. dilute flavescente, tubo gracili elongato, limbo late campanulato explanato, lobis obtusis.

NIEREMBERGIA rivularis. *Miers in Hook. Lond. Journ. Bot. v.* 5. *p.* 167. *Walp. Rep. v.* 6. *p.* 568.

A beautiful little species, a native of La Plata, whence it was introduced by Messrs. Veitch, of the Royal Exotic Nurseries, Chelsea, with whom it flowered in July of the present year. I have dried specimens from various places near Buenos Ayres, where it was discovered by the late Mr. Tweedie upwards of thirty years ago. This collector describes it as a most lovely and fragrant plant, abounding by the sides of the Plate river, and only within high-tide mark, its flowers rising above the dwarf grass which grows in similar situations in such profusion, that the plant is discerned from a great distance. The flowers are sometimes tinged with rose-colour.

DESCR. Everywhere glabrous. *Stems* slender, creeping and rooting abundantly, branched and matted. *Leaves* very variable in size, with the petioles one to three inches long; petioles very long and slender; blade oblong or oblong-spathulate, obtuse, membranous, nerveless or almost so. *Flowers* sessile or shortly peduncled. *Calyx* a quarter to three-quarters of an inch long, cylindric, with five slightly spreading oblong-lanceolate subacute lobes. *Corolla-tube* one to

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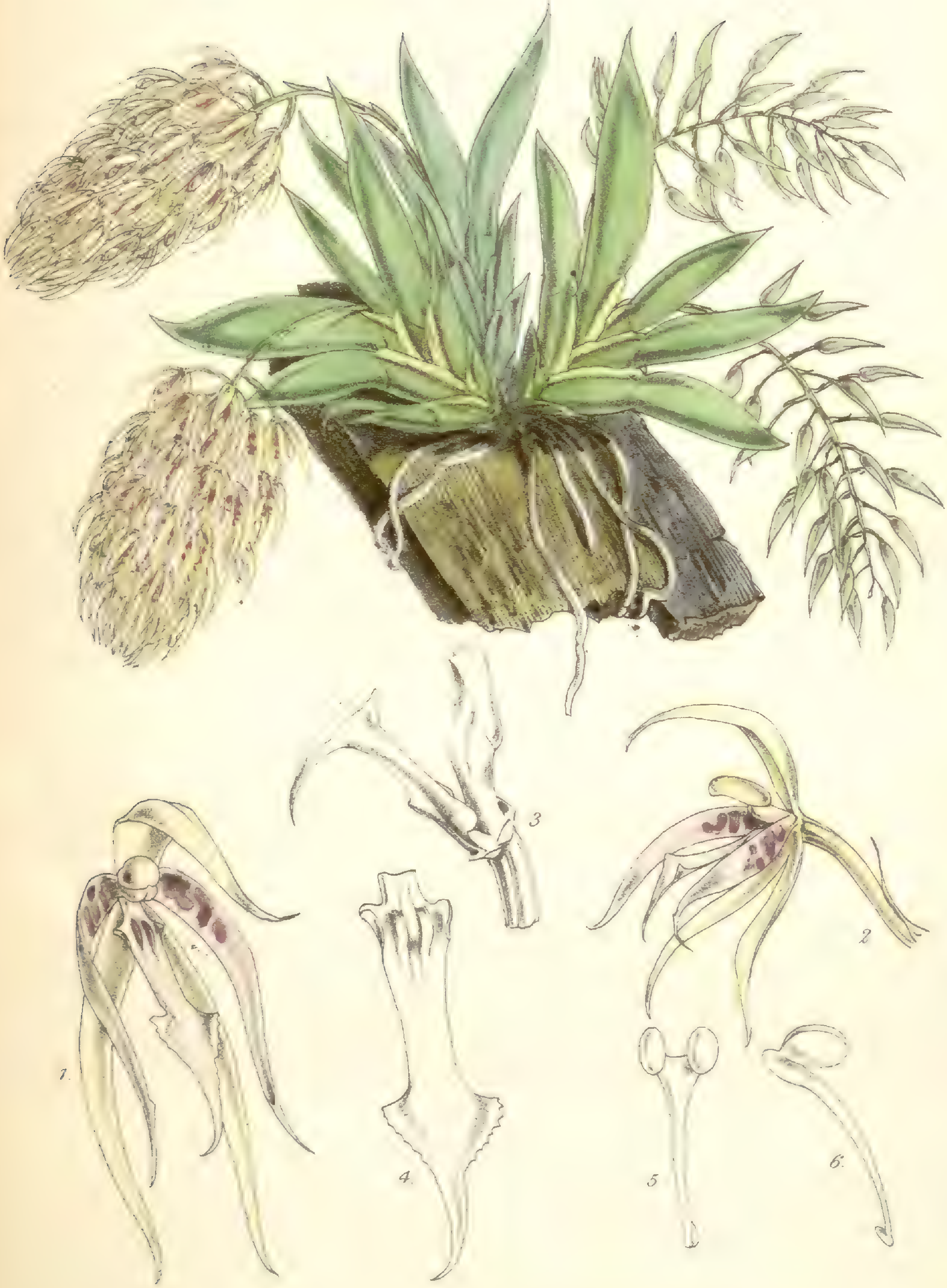
two and a half inches long, very slender, yellowish-white; *limb* broadly campanulate, spreading, white with a yellowish tinge; *lobes* broad, obtuse. *Staminal tube* entire to the summit. *Stigmas* transversely oblong.—*J. D. H.*

Fig. 1. Stamen and stigmas. 2. Stigma. 3. Ovary:—*all magnified.*



W. Fitch, del et lith

Vincent Brooks, Imp.

TAB. 5609.

NOTYLIA BICOLOR.

Two-coloured Notylia.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. Perianthium explanatum, æquale; *sepalis* 2 lateralibus connatis labello suppositis. *Labellum* liberum, ecalcaratum, patentissimum, integrum, medio callosum. *Columna* erecta. *Stigma* rima verticalis. *Anthera* dorsalis, unilocularis, cum stigmate parallela. *Clinandrium* planum, anticè callosum, posticè marginatum. *Pollinia* duo integra, caudiculâ elongato-cuneatâ, glandulâ minutâ.—Herbæ *epiphytæ Americanæ.* Folia *equitantia vel plana.* Spicæ *radicales. Lindl. Gen. et Sp. p.* 192.

NOTYLIA *bicolor;* foliis equitantibus ensatis spicis nutantibus apice racemosis multi-(10–20-)floris duplo brevioribus, sepalis lineari-setaceis (inferiora imâ basi coalita) albis, petalis paulo latioribus brevioribus lazulinis; labello libero breviter unguiculato ligulato ante apicem sagittato, apice setaceo ecarinato; columnâ medio angulatâ labello duplo breviore, antherâ maximâ.

NOTYLIA bicolor. *Lindl. in Benth. Plant. Hartw.* 1842. *p.* 93. *Rchb. Xen. Orch. v.* 1. *p.* 46.

This little Orchid is a perfect gem. It was first discovered in Guatemala by Mr. Skinner, and afterwards by Hartweg in the mountains of Comalapan, where it grows upon oaks. In its colouring it is quite unlike the other dozen or more species of *Notylia*, which are generally of a greenish-white, and, except as botanical curiosities, not worth growing.

Notylia bicolor has been established at Knypersley for more than twenty years on a small branch of the Cork-tree Oak, on which it never fails to flower profusely in the autumn. It should be grown near the light at the cooler and drier end of the Cattleya-house. The flowers continue a long time.

DESCR. *Whole plant* often not more than an inch and a half high. *Leaves* generally about five, equitant, stiff, acuminate, slightly scimitar-shaped, scarcely half the length of the

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flower-spikes. *Flower-spikes* drooping, two or three inches long, very slender and graceful, bearing (on their upper portion) from ten to twenty elegant little flowers. *Sepals* setaceous (the two lower ones joined together), white. *Petals* rather wider than the sepals, lilac, with blue spots towards their base. *Lip* free, narrow, slightly unguiculate, arrow-shaped near its apex, ecarinate, resembling the petals in colour. *Column* about half the length of the lip, angular near the middle. *Anther* very large, overlying nearly one-half of the column.—*J. B.*

Fig. 1. Flower, seen in front. 2. Ditto, seen sideways. 3. Side-view of lip and column. 4. Lip. 5 and 6. Pollen-masses and gland:—*magnified.*

5610.

TAB. 5610.

GLYPHÆA MONTEIROI.

M. Monteiro's Glyphæa.

Nat. Ord. TILIACEÆ.—POLYANDRIA MONOGYNIA.

Gen. Char. Sepala 5, rarius 4, libera. *Petala* totidem, basi nuda. *Stamina* ∞, toro haud elevato inserta, filamentis brevibus basi in annulum brevissime connatis v. liberis; *antheræ* filamentis longiores, lineares, erectæ, connectivo apice in membranam brevissime producto. *Ovarium* 4–10-loculare, loculis ∞-ovulatis; *stylus* brevis, stigmate obtuso. *Fructus* oblongo-fusiformis, inermis, mesocarpio tuberoso, subindehiscens, ∞-spermus, carpellis inter semina transverse septatis. *Semina* in loculis 1-seriata, orbiculata v. subquadrata, compressa, verticalia, testa crustacea; *albumen* carnosum; cotyledones cordato-orbiculatæ.—Frutices Africanæ. Folia *subintegra v. dentata*, 3-*plinervia*. Cymæ *paucifloræ, axillares laterales et terminales*. Flores *flavi*.

GLYPHÆA *Monteiroi;* ramis foliisque glabris, ramulis et inflorescentia stellatim pilosis, foliis ovatis oblongisve acuminatis crebre irregulariter dentatis, antheris basi breviter 2-lobis.

The genus *Glyphæa* was established in the Flora of the Niger Expedition, upon a remarkable shrub discovered near the Congo river by Christian Smith, and which has since been found in Senegambia, Sierra Leone, and Fernando Po. More recently, two other forms or species have been detected also in tropical Africa; one on the east coast, and the other, the subject of the present Plate, on the south-west, viz. at Benguela, by M. Joachim Monteiro, to whom we are indebted for specimens of many curious plants, and especially for the *Welwitschia* (Tabb. 5368–69). This differs from the original species in the larger, broader, more ovate and more serrate leaves, in the much larger flower, and in the anthers not being so confluent with the filaments at the base, but terminating in two evident lobules or teeth; whether these are permanent characters, or whether all the three *Glyphæas* may not be best referred to one species, is a point that cannot be determined without fuller materials than we possess. The *Glyphæa Monteiroi* flowered in September of

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the present year, in a tropical stove, from seeds sent us by its discoverer.

Descr. A *shrub*, with slender glabrous branches. *Leaves* glabrous, four to six inches long, membranous, oblong or ovate, rounded or slightly unequally cordate at the base, acuminate, acutely irregularly toothed. *Cymes* three- to four-flowered, pubescent with stellate hairs. *Flowers* an inch to an inch and a quarter in diameter, bright yellow. *Sepals* broadly linear, subacute. *Petals* similar in form, obtuse. *Anthers* narrow-linear, slightly two-lobed at the base. *Fruit* two inches long, sharply ribbed, four- to seven-celled.—*J. D. H.*

Fig. 1. Stamen. 2. Germen. 3. Transverse section of ovary. 4. Fruit. 5. Transverse section of do.:—*all but* 4 *and* 5 *magnified.*

5611.

[illegible]

[illegible]

TAB. 5611.

VANDA BENSONI.

Colonel Benson's Vanda.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4432.)

VANDA *Bensoni;* foliis canaliculatis oblique inæquali-dentatis racemis erectis rigidis multifloris duplo brevioribus, floribus distantibus pedicellis subæqualibus, sepalis petalisque minoribus unguiculatis obovatis obtusis intus guttulatis (nec tessellatis), labello convexo ovato disco trilamellato apice altè bifido subreniformi auriculis ad basin triangularibus obtusiusculis, calcare conico obtuso.

VANDA Bensoni. *Bateman, mss.*

This elegant addition to our list of *Vandas* was discovered in Rangoon and sent to Messrs. Veitch by that zealous naturalist Colonel Benson, after whom I have great pleasure in naming it. It flowered at Chelsea shortly after its arrival in the summer of the present year (1866), though the spikes were of course inferior to those produced in its own country, some of the latter—which are now in the Kew herbarium—having been upwards of half a yard long, and carried as many as fifteen flowers. The length of its spikes, the absence of all tessellation, the spotting and yellow colour of the inside of the flowers, are among the marks that distinguish the species from *V. Roxburghii* and *V. concolor*, to which it is nearly allied. It appears to be a very free grower.

DESCR. *Plant* a foot or more high, bearing a compact mass of distichous channelled coriaceous *leaves*, which are obliquely and unequally toothed, a span or more long. *Flower-spikes* upright, many-flowered, much longer than the leaves. *Pedicels* about an inch long, white. *Flowers* not closely arranged, about two inches across: the *sepals* and

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petals (which are smaller than the sepals) unguiculate, obovate, obtuse, white on the outside, and of a yellowish-green on the inside, where they are marked with numerous reddish-brown dots. *Lip* about the same length as the sepals, with two small, triangular, rather blunt side-lobes or auricles at its base, from in front of which it is ovate, convex, traversed by three lamellæ, and terminated by a kidney-shaped, broad, bifid apex, which is of a beautiful violet colour, while the auricles and conical spur at the base are white.—*J. B.*

Fig. 1. Lip and column, seen sideways. 2. Ditto, seen in front:—*magnified.*

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[illegible] CROCUSES, 1*s*. 6*d*. to 4*s*. per 100, 14*s*. to 30*s*. per 1000

[illegible] SNOWDROPS, 2*s*. 6*d*. per 100, 21*s*. per 1000

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[illegible],000 CLIVEDEN PANSIES, Blue, Purple, and Yellow, 4*s*. per doz., 30*s*. per 100

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BARR AND SUGDEN,
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12, KING STREET, COVENT GARDEN, LONDON, W.C.

[illegible]

Vincent Brooks, Imp.

TAB. 5612.

CYPELLA CÆRULEA.

Blue-flowered Cypella.

Nat. Ord. IRIDEÆ.—TRIANDRIA TRIGYNIA.

Gen. Char. Perianthium corollinum, superum, 5-phyllum, laciniis basi concavis exterioribus majoribus patentibus, interioribus recurvis. *Stamina* 3, perigonii laciniis exterioribus basi inserta, filamentis brevissime coalitis subulatis. *Antheræ* oblongæ, basifixæ, loculis connectivum marginantibus. *Ovarium* inferum, oblongo-prismaticum, 3-loculare; *stylus* brevis, filiformis, stigmate dilatato 3-lobo, lobis erectis 3-fidis basi appendiculatis. *Ovula* plurima, in loculorum angulo centrali 2-seriata. *Capsula* membranacea, oblongo-prismatica, 3-locularis, loculicide 3-valvis. *Semina* plurima, angustata.—Herbæ *perennes*, Americæ tropicæ; *rhizomate bulboso-tuberoso.* Caulis *erectus, foliatus, apice ramosus.* Folia *late lineari-lanceolata v. ensiformia.* Flores *magni, speciosi, laxe paniculati, spatha 2-phylla 1-flora.*

CYPELLA *cærulea;* elata, foliis 3–6-pedalibus 1–1½ lin. latis ensiformibus obtusiusculis v. acuminatis, floribus cæruleis, 4 unc. diametro, perianthii laciniis exterioribus late oblongis, ungue aurantiaco brunneo fasciato, laciniis interioribus dimidio minoribus angustioribus, lamina cæruleo-venosa, ungue aurantiaco fasciato, stigmatis lobis acuminatis, raro 2-appendiculatis.

CYPELLA cærulea. *Seubert in Herb. Reg. Berol.*

MARICA cærulea. *Hook. Exot. Flora, f.* 222. *Bot. Reg. t.* 713.

A magnificent plant, native of the Brazils, long known in our gardens, though displaced of late by newer but far less attractive favourites. Whether for the boldness of its distichous sword-like foliage or the magnificence of its fine Iris-like flower, it is well worthy of a permanent place in our stoves. The plant from which the accompanying drawing was made was sent to the Royal Gardens from Bahia, by Mr. Williams, and flowered in September of the present year.

DESCR. *Leaves* three to six feet long, an inch to an inch and a half broad, striate, on a very stout caudex in our plant. equitant, bright green, acute or obtuse, sometimes acumi-

nate. *Flowers* panicled; *lower spathes* four to six inches long; *floral* two inches. *Flowers* variable in size, the fully-sized fully four inches in diameter. Outer *perianth-leaves* broadly oblong, obtuse, acute or apiculate; *blade* blue, sometimes blotched; *claw* yellowish, with transverse brown bands; *inner segments* about half as long as the outer, and much narrower proportionally; *claw* dirty-yellowish, with orange radiating bands; *limb* with radiating blue bands. *Stigma-lobes* bifid, each with a horn-like appendage at the base below.—*J. D. H.*

Fig. 1. Stamens, style, and stigmas. 2. Transverse section of ovary:—*both magnified.*

5613.

W Fitch, del et lith

[illegible]

TAB. 5613.

HELICONIA HUMILIS.

Dwarf Heliconia.

Nat. Ord. MUSACEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Perianthium corollinum; foliola exteriora æqualia, basi connata; interiora lateralia subconformia, approximata, genitalia amplectentia, posticum nanum. *Stamina* 5, sexto abortiente nano, basi perigonii adnata. *Ovarium* 3-loculare; *stylus* filiformis, stigmate obsolete 6-lobo. *Ovula* in loculis solitaria, e basi axeos adscendentia, anatropa. *Capsula* subdrupacea, 3-cocca, coccis osseis indehiscentibus. *Semina* subglobosa, basifixa; *albumen* farinaceo-carnosum; *embryo* linearis, orthotropus.—Herbæ *sæpius elatæ, Americæ tropicæ incolæ.* Folia *longe petiolata, petiolo basi vaginante scapum radicalem sæpe velante.* Spathæ *numerosæ, distichæ; axillis floriferis.*

HELICONIA *humilis;* humilis, acaulis, petiolis longissimis, gracilibus, foliis oblongis oblongo-lanceolatisve breviter acuminatis basi cuneatis, scapo brevi radicali erecto, spathis 4–6 erecto-patentibus distichis subulato-lanceolatis rubris apice viridibus multifloris, perianthii foliolis linearibus angustis ex albo viridibus.

HELICONIA humilis. *Jacq. Hort. Schœnb. t.* 48, 49. *Willd. Sp. Pl. v.* 1. *p.* 1187. *Rœm. and Sch. Syst. Veg. v.* 5. *p.* 590.

MUSA humilis. *Aubl. Guian. v.* 2. *p.* 931.

Few plants are so well worthy of cultivation, for those who can afford space for the purpose, than the species of the magnificent genus *Heliconia;* they are easily managed, their beautiful foliage is evergreen, their brilliant flowering-bracts keep their colour for many weeks, and they may be rapidly increased by division of the rhizome. The present species is a native of Guiana, where it abounds in marshy places, and is called "petit Bahisia" by the French settlers, according to Aublet. Jacquin published an excellent figure and description of it in his 'Hortus Schœnbrunensis' so long ago as 1797, which appears to be the only figure extant. The specimen here figured flowered in the Royal Gardens, Kew, in September of the present year.

DECEMBER 1ST, 1866.

DESCR. *Rhizome* tuberous and creeping, covered with circular scars of fallen buds, giving off thick fleshy root-fibres. *Stem* none. *Leaves* all radical, on long slender petioles two to three feet long; *blade* one to two feet long, oblong linear-oblong or oblong-lanceolate, rather pale green, shortly abruptly acuminate, cuneate at the base. *Scape* short, radical, hidden amongst the leaves, erect, straight; flowering portion bright red, about a span long, bearing about four distichous spathes. *Spathes* erecto-patent, subulate from a broad base, nearly a span long, scarlet, with green stiff, almost pungent points, thick and hard, not striated. *Flowers* five to six in a spathe, two to three inches long, sessile, crowded; partial spathe membranous. *Perianth* white, green towards the apices of the narrow linear segments; *tube* short, cylindric; *limb* two-lipped, upper leaflet concave, bifid, lower at length revolute at the apex; upper inner leaflet tridentate, lower very short.—*J. D. H.*

Fig. 1. Entire plant, *reduced;* anthers whitish. 2. Inflorescence. 3. Flowers. 4. Ovary, etc.:—*all magnified.*

5614.

W Fitch, del et lith

Vincent Brooks, Imp

TAB. 5614.

CYPRIPEDIUM SCHLIMII.

Schlim's Lady's-slipper.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra,* TAB. 5349.)

CYPRIPEDIUM (SELENIPIDIUM) *Schlimii;* foliis coriaceis ligulatis acutis subpedalibus pedunculo hirsuto nunc ramoso brevioribus; bracteis triangulis ancipitibus, ovario velutino, sepalis ovatis obtusis, superiore ovato, extus sericeo, inferiore subæquali (vel paulo majore) apice contracto cucullato, petalis sepalo summo majoribus, inferiori subæqualibus; labello elliptico-saccato ostio angusto; staminodio ovato pandurato apiculato, stigmatis labio superiori triangulo, inferiori retuso lobato. *Ex Reichenbach.*

SELENIPIDIUM Schlimii. *Rchb. in Pescatorea, t.* 34. *Xenia Orch. t.* 44.

This pretty New Granada *Cypripedium* bears the name of its discoverer, M. Schlim, one of M. Linden's most zealous collectors, who found it in "moist places," in the neighbourhood of Ocaña, at an elevation of four thousand feet above the sea-level. It first flowered in M. Linden's establishment in 1854. It was afterwards met with near La Cruz by Purdie, and on "dry banks"(!) according to the memorandum in the Hookerian herbarium. Possibly, however, the different season of the year at which the plant was gathered by the respective collectors may explain the seeming discrepancy. In this country it is still a rare plant, though it is easily grown in a mild temperature, especially if screened from the direct rays of the sun. It blooms in the late summer and autumn months, always—when in vigour—producing flower-stems with at least one lateral, a peculiarity that is not represented in the figure, and which does not exist in the dried specimens. The drawing is taken from a plant exhibited at South Kensington in August last by Mr. Bull.

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As all the species of *Cypripedium* that have hitherto been found in intra-tropical America have in common the remarkable peculiarity of a three-celled ovary, Professor Reichenbach is anxious to raise them—under the name of *Selenipidium*—into a separate genus; but however loth I may feel to differ from my distinguished friend, I cannot as yet see my way to accepting *Selenipidium*, except as a subgenus, in which latter form it may very conveniently stand. The strong family resemblance between such plants as *C. lævigatum* from the Old World, and *C. caudatum* from the New, make it exceedingly difficult to believe they can be essentially different in structure.

There are still at the very least half-a-dozen noble *Cypripedia* to introduce from America south of the equator. Two of these (from the Quitensian Andes) are well figured in Reichenbach's 'Xenia,' under the name of *Selenipidium Hartwegii* and *S. Boissierianum.* As nothing so fine has yet reached us from the eastern hemisphere, we cannot but hope that some enterprising nurseryman will, ere long, add them to the treasures already in our stoves.

DESCR. A stemless terrestrial plant. There are from four to six leathery ligulate sharp-pointed *leaves*, a span to a foot long, from the centre of which issues the hirsute *flower-stem*, which is longer than the leaves, often branched, and generally bearing about half-a-dozen flowers, of which not more than two or three are usually in perfection at the same time. *Bracts* triangular, flattened, more than half the length of the ovary, which is itself covered with soft velvety hairs. *Sepals* less than an inch long, ovate-obtuse, nearly uniform, but the lower one is slightly larger, hooded, and contracted at top. *Petals* rather larger than in the upper, or about equal to the lower sepal, white (like the sepals), with streaks or spots of crimson on the inner side, and a faint dash of crimson behind. *Lip* formed of a large swollen elliptic bag or slipper with a contracted opening, white behind, but with a large blotch of deep rich crimson in front. *Sterile stamen* yellowish in front, ovate, panduriform, acuminate, having the upper lip of the *stigma* triangular, and the lower lip of the same bent backwards, and lobed.—*J. B.*

Fig. 1. Side-view of staminodium (sterile stamen). 2. Front view of ditto :—*magnified.*

5615.

W. Fitch del. et lith.

Vincent Brooks, Imp

TAB. 5615.

HELIOTROPIUM CONVOLVULACEUM.

Convolvulus-flowered Heliotrope.

Nat. Ord. BORAGINEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calyx 5-partitus v. 5-dentatus, persistens. *Corolla* hypocraterimorpha, fauce pervia interdum barbata, laciniis plica simplici (rarissime dente interjecto) donatis. *Stamina* 5, tubo corollæ inserta. *Ovarium* 4-loculare; stylus brevis, stigmate incrassato. *Nuculæ* 1-loculares, demum separabiles, receptaculo communi 0. *Semina* exalbuminosa, embryone inverso, cotyledonibus planis.—Herbæ *v. suffrutices, glabræ pilosæ v. hispidæ.* Folia *sæpius alterna, integra v. denticulata.* Cymæ *unilaterales.* Flores *albi v. purpurascentes.*

HELIOTROPIUM *convolvulaceum;* annua, hispido-pilosa, caule ramoso ramis patentibus adscendentibus, foliis alternis ovato-oblongis v. oblongo-lanceolatis integerrimis acutis enerviis, floribus axillaribus subsolitariis v. in cymas breves paucifloras dispositis, corollæ tubo hispido, limbo amplo explanato, stigmate capitato apice setoso, nuculis dimidiato-reniformibus perforatis.

HELIOTROPIUM convolvulaceum. *A. Gray in Proc. Am. Acad. v. 5. p.* 340, *et Mem. Amer. Acad. v.* 6. *p.* 403.

EUPLOCA convolvulacea. *Nutt. in Am. Phil. Trans. N. Ser. v.* 5. *p.* 189. *DC. Prodr. v.* 9. *p.* 559. *Hook. Ic. Pl. v.* 7. *t.* 651.

A curious and beautiful American annual, grown by Mr. Thompson, of Ipswich, with whom the specimen here figured flowered in September of the present year; it is a native of the Southern United States, New Mexico, and Arkansas, in which last State it was discovered by Nuttall, growing on sandy plains. The flowers, which are most abundantly produced, are sweet-scented, and open towards sunset like those of *mirabilis.*

DESCR. A much-branched, suberect annual, a span to two feet high, hoary all over with short rigid simple hairs. *Stem* and *branches* terete. *Leaves* half to one and a half inches long, very variable in shape, linear-oblong ovate ovate-orbicular or lanceolate, acute, narrowed or rounded at the base.

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quite entire. *Flowers* axillary, solitary, very shortly pedicelled. *Calyx* quinquepartite; *lobes* linear, hispidly pilose, rather shorter than the tube. *Corolla* salver-shaped, plaited; *tube* contracted in the middle, pilose; *limb* one inch across, white, nearly flat, five-angled, angles subacute; *lobes* hairy along the back to the calyx; *throat* narrow. *Anthers* included, sessile, linear, pubescent at the tips. *Ovary* oblong-conic, four-celled, with a narrow adnate four-lobed concave disk at its base; *style* slender, stigma capitate, crowned with stiff erect bristles. *Capsule* small, enclosed in the persistent calyx-lobes.—*J. D. H.*

Fig. 1. Calyx. 2. Tube of corolla laid open. 3. Anther. 4. Germen and disk. 5. Transverse section of ovary:—*all magnified.*

W Fitch, del et lith

Vincent Brooks, Imp

TAB. 5616.

LYCASTE GIGANTEA.

Gigantic Lycaste.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4193.)

LYCASTE *gigantea;* pseudobulbis maximis oblongo-ovatis glabris subcompressis 2–3-phyllis, foliis oblongo-lanceolatis acuminatis plicatis scapo vaginato unifloro longioribus, sepalis ovato- vel lineari-lanceolatis obtusiusculis, lateralibus falcatis petalis lanceolatis brevioribus, labelli oblongi lanceolati trilobi laciniis lateralibus elevatis acutis intermediâ serratâ panduriformi concavâ apice integrâ recurvâ multo brevioribus, callo unico emarginato sellæformi per hypochilium decurrente.

LYCASTE gigantea. *Lindl. in Benth. Pl. Hartweg. p.* 153. *Orch. Linden, p.* 21. *Bot. Reg. v.* xxxix. (1843) *p.* 15; *Id. v.* xxx. *Misc.* 48.

MAXILLARIA Heynderycxii. *Morr. Ann.* 1845–9.

This stately *Lycaste* is very extensively diffused, having been found in Central America by Hartweg,—near Santa Martha by Purdie,—and in the forests of Merida, at an elevation of 5–600 feet, by Linden. As might under such circumstances be expected there are many varieties differing in the size and colour of the flowers, and also—though to a less extent—in the size and form of the sepals and petals; the latter are usually of a yellowish-olive, while the velvety lip is of a dark rich maroon bordered with orange. The specimen figured was exhibited by Messrs. Veitch at South Kensington in July last.

All the *Lycastes* may be regarded as subterrestrial, and should therefore be accommodated with large pots. They are readily grown in a moderate temperature, but prefer the shadier parts of the orchid-house. With the exception of *L. Skinneri*—now such a universal favourite—*L. gigantea* is, perhaps, the best of its race.

DESCR. *Pseudobulbs* very large (sometimes six inches high), oblong-ovate, smooth, and slightly compressed, bearing two or three large, deeply plicated oblong-lanceolate acuminate *leaves*, which are from half a yard to two feet long. *Scape* upright, one-flowered, partially sheathed (the upper sheath unguiculate and same length as the sepals), usually shorter than the leaves. *Sepals* ovate, or sometimes linear-lanceolate, rather blunted (those at the side being falcate) of a warm yellowish-olive. *Petals* lanceolate, rather shorter than the sepals and of the same olivaceous hue. *Lip* oblong-lanceolate, 3-lobed, the lateral lobes being elevated, acute, and much shorter than the central one, which is panduriform, serrated at the edges, depressed along the centre, but with its apex recurved; the lower portion of the lip is occupied by a transverse saddle-shaped emarginate callus; the colour of the lip is usually a rich maroon bordered with a narrow orange rim, the whole having quite the appearance of velvet.—*J. B.*

Fig. 1. Lip, *nat. size.*

W. Fitch, del et lith.

Vincent Brooks, Imp.

Tab. 5617.

COMBRETUM MICROPETALUM.

Small-petaled Combretum.

Nat. Ord. Combretaceæ.—Octandria Monogynia.

Gen. Char. Flores polygamo-dioici. *Calycis* tubus supra ovarium constrictus; limbus campanulatus, 4–5-fidus, deciduus. *Petala* 4–5, rarissime 0, parva, inter lobos corollæ inserta. *Stamina* 8 v. 10, 2-seriata, filamentis elongatis; *antheræ* parvæ. *Ovarium* 1-loculare; *stylus* subulatus, stigmate simplici; *ovula* 2–6, ab apice loculi pendula. *Fructus* 4–6-gonus v. 4–6-pterus, 1-spermus. *Semen* elongatum.—Frutices, *rarius* arbores *tropicæ, sæpissime scandentes.* Folia *opposita, rarius* 3–4-*natim verticillata, rarissime alterna, integerrima.* Flores *spicati v. racemosi.*

Combretum *micropetalum;* ramulis puberulis, foliis oppositis breviter petiolatis oblongis subacutis et apiculatis v. acuminatis, superne glabris subtus impresso-punctulatis junioribus pubescentibus, racemis axillaribus breviter pedunculatis multi-densifloris, floribus congestis secundis, pedicellis calycibusque dense lepidotis, petalis minutis.

Combretum micropetalum. *DC. Prodr. v. 3. p.* 19. *St. Hil. Fl. Bras. Merid. v. 2. p.* 249.

A truly magnificent climber, native of Brazil, from Rio de Janeiro southward to the province of St. Paul, and northward to those of Minas Geraes and Goyoz. The specimen here figured is from a plant long cultivated by Dr. Moore in a greenhouse at Glasnevin, which annually bears a profusion of blossoms under his skilful management, and presents a very striking appearance. It flowers in September here, but in its native country in May and June. The genus *Combretum* is a very considerable one, embracing fully a hundred and twenty species, many of great beauty, and that would be great acquisitions to our stoves. The present plant comes very near to Don's *C. formosum*, published in 1822 in the fifteenth volume of the Linnean Transactions, but that is described as having a calyx pubescent with rusty down.

Descr. A large *tree*, according to the description in St. Hilaire's 'Flora;' a tall rambling *climber* at Glasnevin Garden.

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Branches terete, young clothed with lepidote scales. *Leaves* opposite, membranous, three to five inches long, variable in form, usually oblong, obtuse acute or acuminate, glabrous above, beneath covered with minute pale pits, and clothed with scales when young; *petiole* very short. *Racemes* spreading or refracted, four to five inches long, on short stout peduncles, axillary, simple, solitary; rhachis, pedicels, and calyx densely covered with lepidote scales. *Flowers* densely crowded, secund. *Calyx* green, one-third to half an inch long; *tube* slender, tetragonous; *limb* campanulate, four-lobed; *lobes* short, acute. *Petals* very minute, obovate, spathulate, acute. *Stamens* eight, three-quarters of an inch long, yellow, with orange anthers.—*J. D. H.*

Fig. 1. Flower:—*magnified*.

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5599 Nierembergia, Mr. Veitch's.
5608 Nierembergia, water.
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